PARTS AND OPERATION MANUAL

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MQ POWER
Model DCA-10SPX3
WHISPERWATT™
GENERATOR

Revision #1 (03/31/00)

MQ POWER

MULTIQUIP INC.
18910 WILMINGTON AVE.
CARSON, CALIFORNIA 90746
310-537-3700
800-421-1244
FAX: 310-537-3927

PARTS DEPARTMENT:
800-427-1244
FAX: 800-672-7877

SERVICE DEPARTMENT:
800-835-2551
FAX: 310-638-8046

E-mail:mq@multiquip.com • www:multiquip.com

WARNING

CALIFORNIA--Proposition 65 Warning

Engine exhaust and some of its constituents are know to the State of California to cause cancer, birth defects and other reproductive harm.

HERE'S HOW TO GET HELP

PLEASE HAVE THE MODEL AND SERIAL NUMBER ON-HAND WHEN CALLING

PARTS DEPARTMENT
800/427-1244 or 310/537-3700
FAX: 800/672-7877 or 310/637-3284

SERVICE DEPARTMENT
800/835-2551 or 310/537-3700
FAX: 310/638-8046

WARRANTY DEPARTMENT
800/835-2551 or 310/537-3700
FAX: 310/638-8046

MAIN
800/421-1244 or 310/537-3700
FAX: 310/537-3927

DCA-10SPX3 AC Generator

Kubota D1403 Engine

NOTE

Specification and part number are subject to change without notice.

- **Dealer account number**
- **Dealer name and address**
- **Shipping address (if different than billing address)**
- **Return fax number**
- **Applicable model number**
- **Quantity, part number and description of each part**
- **Specify preferred method of shipment:**
  - UPS Ground
  - UPS Second Day or Third Day*
  - UPS Next Day*
  - Federal Express Priority One (please provide us with your Federal Express account number)*
  - Airborne Express*
  - Truck or parcel post

**Normally shipped the same day the order is received, if prior to 2PM west coast time.*

Earn Extra Discounts when you order by FAX!

Extra Fax Discount for Domestic USA Dealers Only

All parts orders which include complete part numbers and are received by fax qualify for the following extra discounts:

Number of line items ordered	Additional Discount
1-9 items	3%
10+ items**	5%

Get special freight allowances when you order 10 or more line items via FAX!**

- UPS Ground Service **at no charge for freight**
- PS Third Day Service **at one-half of actual freight cost**

No other allowances on freight shipped by any other carrier.

**Common nuts, bolts and washers (all items under $1.00 list price) do not count towards the 10+ line items.

Now! Direct TOLL-FREE access to our Parts Department!

Toll-free nationwide:

800-421-1244

Toll-free FAX:

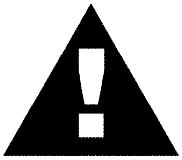
800/6-PARTS-7 • 800-672-7877

DISCOUNTS ARE SUBJECT TO CHANGE

Fax order discount and UPS special programs revised June 1, 1995

RULES FOR SAFE OPERATION

CAUTION:

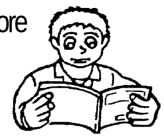


Failure to follow instructions in this manual may lead to serious injury or even death! This equipment is to be operated by trained and qualified personnel only! This equipment is for industrial use only.

The following safety guidelines should always be used when operating the DCA-10SPX3 portable generator:

GENERAL SAFETY

- **DO NOT** operate or service this equipment before reading this entire manual.



- This equipment should not be operated by persons under 18 years of age.
- **NEVER** operate this equipment without proper protective clothing, shatterproof glasses, steel-toed boots and other protective devices required by the job.



- **NEVER** operate this equipment when not feeling well due to fatigue, illness or taking medicine.



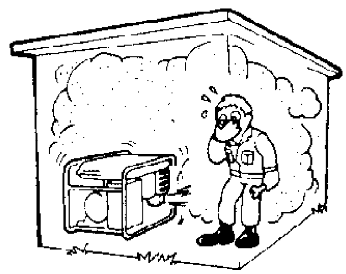
- **NEVER** operate this equipment under the influence or drugs or alcohol.



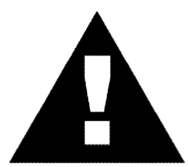
- **NEVER** use accessories or attachments, which are not recommended by MQ Power for this equipment. Damage to the equipment and/or injury to user may result.
- Manufacture does not assume responsibility for any accident due to equipment modifications.
- Whenever necessary, replace nameplate, operation and safety decals when they become difficult read.
- Always check the machine for loosened threads or bolts before starting.
- **NEVER** touch the hot exhaust manifold, muffler or cylinder. Allow these parts to cool before servicing engine or generator.



- **High Temperatures** – Allow the engine to cool before adding fuel or performing service and maintenance functions. Contact with *hot* components can cause serious burns.
- The engine of this generator requires an adequate free flow of cooling air. Never operate the generator in any enclosed or narrow area where free flow of the air is restricted. If the air flow is restricted it will cause serious damage to the generator or engine and may cause injury to people. The generator engine gives off DEADLY carbon monoxide gas.



CAUTION:



Always refuel in a well-ventilated area, away from sparks and open flames.

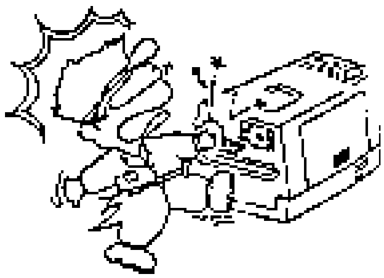
- Always use extreme caution when working with **flammable** liquids. When refueling, **stop the engine** and allow it to cool. **DO NOT** smoke around or near the machine. Fire or explosion could result from fuel vapors, or if fuel is spilled on a hot engine.



- **NEVER** operate the generator in an explosive atmosphere or near combustible materials. An explosion or fire could result causing severe *bodily harm or even death.*
- Topping-off to filler port is dangerous, as it tends to spill fuel.

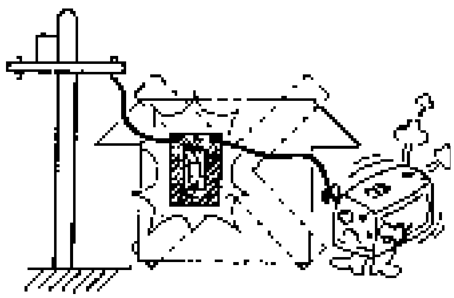
RULES FOR SAFE OPERATION

CAUTION:



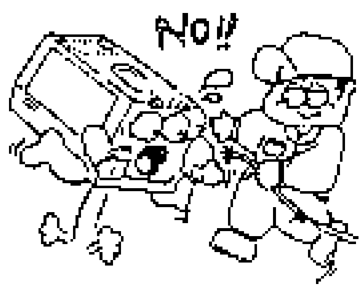
■ **NEVER** touch output terminals during operation. This is extremely dangerous. Always stop the machine when contact with the output terminals is required.

CAUTION:



■ **Backfeed to a utility system can cause electrocution and/or property damage. Do not connect to any building's electrical system except through an approved device or after building main switch is opened.**

CAUTION:



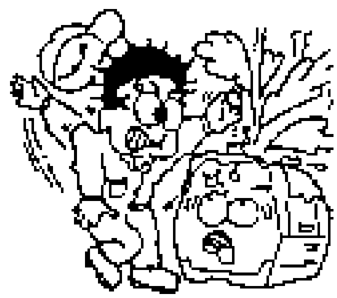
■ **Never** use damaged or worn cables when connecting power tools or equipment to the generator. Make sure power connecting cables are securely connected to the generator's output terminals, insufficient tightening of the terminal connections may cause damage to the generator and electrical shock.

CAUTION:

DO NOT touch or open any of the below mentioned components while the generator is running. Always allow sufficient time for the engine and generator to cool before performing maintenance.

Radiator

1. **Radiator Cap -** Removing the radiator cap while the engine is hot will result in high pressurized, boiling water to gush out of the radiator, therefore causing severe scalding to any persons in the general area of the generator.

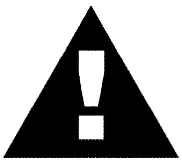


2. **Coolant Drain Plug -** Removing the coolant drain plug while the engine is hot will result in hot coolant to gush out of the coolant drain plug, therefore causing severe scalding to any persons in the general area of the generator.
3. **Engine Oil Drain Plug -** Removing the engine oil drain plug while the engine is hot will result in hot oil to gush out of the oil drain plug, therefore causing severe scalding to any persons in the general area of the generator.

RULES FOR SAFE OPERATION

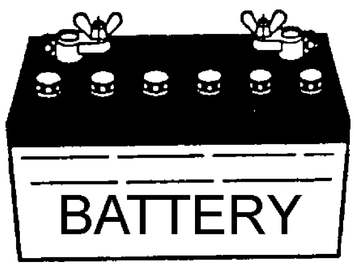
Battery

CAUTION:



- Never over fill the battery with water above the upper limit.

The battery has acids that can cause injury to the eyes and skin. To avoid eye irritation, always wear safety glasses. Use well insulated gloves when picking up the battery. Use the following guidelines when handling the battery:



1. **DO NOT** drop the battery. There is the possibility of risk the battery may explode.
2. **DO NOT** expose the battery to open flames, sparks, cigarettes etc. The battery contains combustible gases and liquids. If these gases and liquids come in contact with a flame or spark, an explosion could occur.
3. Always keep the battery charged. If the battery is not charged, a buildup of combustible gas will occur.
4. Always keep battery charging and booster cables in good working condition. Repair or replace all worn cables.
5. Always recharge the battery in an open air environment, to avoid risk of a dangerous concentration of combustible gases.
6. In case the battery liquid (dilute sulfuric acid) comes in contact with ***clothing or skin***, rinse skin or clothing immediately with plenty of water.
7. In case the battery liquid (dilute sulfuric acid) comes in contact with your **eyes**, rinse eyes immediately with plenty of water, then contact the nearest doctor or hospital, and seek medical attention.

- **NEVER** Run engine without air filter. Severe engine damage may occur.
- Always service air cleaner frequently to prevent carburetor malfunction.
- Always disconnect the battery before performing service on the generator.
- Always be sure the operator is familiar with proper safety precautions and operations techniques before using generator.
- Always store equipment properly when it is not being used. Equipment should be stored in a clean, dry location out of the reach of children.
- **DO NOT** leave the generator running in the manual mode unattended.
- **DO NOT** allow unauthorized people to operate this equipment.
- Always read, understand, and follow procedures in Operator's Manual before attempting to operate equipment.
- Always be sure the operator is familiar with proper safety precautions and operations techniques before using generator.
- Refer to the ***Kubota Engine Owner's Manual*** for engine technical questions or information.

Loading and Unloading (Crane)

- Before lifting, make sure the generator's lifting hook is secure and that there is no apparent damage to the generator itself (loose screws, nuts and bolts). If any part is loose or damaged, please take corrective action before lifting.
- Always drain fuel prior to lifting.
- Always make sure crane or lifting device has been properly secured to the hook of guard frame on generator.
- **NEVER** lift the machine while the engine is running.
- Use adequate lifting cable (wire or rope) of sufficient strength.
- When lifting the generator, always use the balanced center-point suspension hook and lift straight upwards.
- **NEVER** allow any person or animal to stand underneath the machine while lifting.
- When loading the generator on a truck, be sure to use the front and back frame bars as a means to secure the generator during transport.

RULES FOR SAFE OPERATION

Transporting

- Always shutdown engine before transporting.
- Tighten fuel tank cap securely.
- Drain fuel when transporting generator over long distances or bad roads.
- Always tie-down the generator during transportation by securing the generator.
- If generator is mounted on a trailer, make sure trailer complies with all local and state safety transportation laws. See page 10 for basic towing procedures.

Emergencies

- Always know the location of the nearest ***fire extinguisher*** and ***first aid kit*.** Know the location of the nearest telephone. Also know the phone numbers of the nearest ***ambulance***, ***doctor*** and ***fire department***.

Maintenance Safety

- **NEVER** lubricate components or attempt service on a running machine.
- Always allow the machine a proper amount of time to cool before servicing.
- Keep the machinery in proper running condition.
- Fix damage to the machine immediately and always replace broken parts.
- Dispose of hazardous waste properly. Examples of potentially hazardous waste are used motor oil, fuel, coolant and fuel filters.
- **DO NOT** use plastic containers to dispose of hazardous waste.
- **DO NOT** pour waste, oil, coolant or fuel directly onto the ground, down a drain or into any water source.

Towing Safety Precautions

CAUTION :

Check with your county or state safety towing regulations department before towing your generator. Vehicle towing codes and regulations can vary from state to state.

To reduce the possibility of an accident while transporting the generator on public roads, always make sure the trailer and the towing vehicle are in good operating condition and both units are mechanically sound.

The following list of suggestions should be used when towing your generator:

- Make sure the hitch and coupling of the towing vehicle are rated equal to, or greater than the trailer "gross vehicle weight rating" (GVWR).
- **ALWAYS** inspect the hitch and coupling for wear. **NEVER** tow a trailer with defective hitches, couplings, chains etc.
- Check the tire air pressure on both the towing vehicle and the trailer. Also check the tire tread wear on both vehicles.
- **ALWAYS** make sure the trailer is equipped with a "**Safety Chain**".
- **ALWAYS** attach trailer's safety chain to bumper of towing vehicle.
- **ALWAYS** make sure the vehicle and trailer directional, backup, brake, and trailer lights are connected and are working properly.
- The maximum speed (unless otherwise posted) for highway towing is **45 MPH**. Recommended off-road towing is not to exceed **10 MPH** or less, depending on type of terrain.
- Place *chocked blocks* underneath wheel to prevent ***rolling***, while parked.
- Place *support blocks* underneath the trailer's bumper to prevent ***tipping***, while parked.
- Use the trailer's hand winch to adjust the height of the trailer, then insert locking pin to lock wheel stand in place, while parked.
- Avoid sudden stops and starts. This can cause skidding, or jackknifing. Smooth, gradual starts and stops will improve gas milage.
- Avoid sharp turns to prevent rolling.
- Remove wheel stand when transporting.
- **DO NOT** transport generator with fuel in tank.

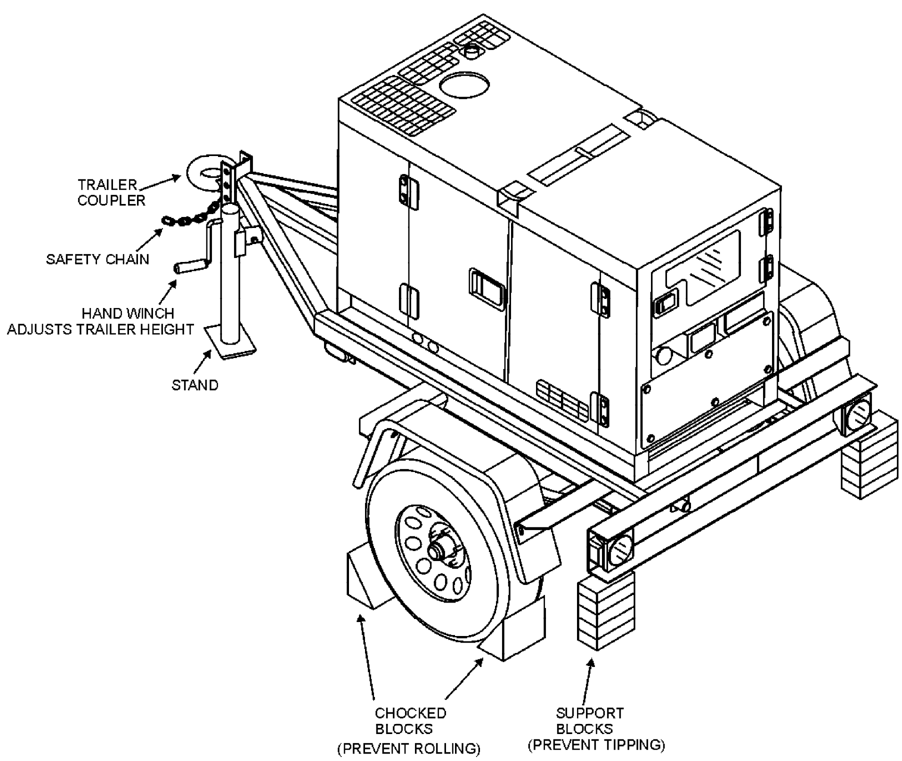


Figure 1. DCA-10SPX3 and Towing Trailer

CAUTION:

ALWAYS make sure the trailer is in good operating condition. Check the tires for proper inflation and wear. Also check the wheel lug nuts for proper tightness.

Explanation of Chart:
This section is intended to provide the user with trailer service and maintenance information. The service and maintenance guidelines referenced in this section apply a wide range of trailers. Remember periodic inspection of the trailer will ensure safe towing of the equipment and will prevent damage to the equipment and personal injury.

It is the purpose of this section to cover the major maintenance components of the trailer. The following trailer components will be discussed in this section:

- Brakes
- Tires
- Lug Nut Torquing
- Suspension
- Electrical
- Brake Troubleshooting Tables

Use the following definitions with reading Table 1.

1. **Fuel Cell -** Provides an adequate amount of fuel for the equipment in use. Fuel cells must be empty when transporting equipment.
2. **Braking System** - System employed in stopping the trailer. Typical braking systems are electric, surge, hydraulic, hydraulic-surge and air.
3. **GVWR-** Gross Vehicle Weight Rating (GVWR), is the maximum number of pounds the trailer can carry, including the fuel cell (empty).
4. **Frame Length -** This measurement is from the ball hitch to the rear bumper (reflector).
5. **Frame Width -** This measurement is from fender to fender.
6. **Jack Stand -** Trailer support device with maximum pound requirement from the tongue of the trailer.
7. **Coupler -** Type of hitch used on the trailer for towing.
8. **Tire Size -** Indicates the diameter of the tire in inches (10,12,14, etc.), and the width in millimeters (175,185,205, etc.). The tire diameter must match the diameter of the tire rim.
9. **Tire Ply -** The tire ply (layers) number is rated in letters; 2-ply,4-ply,6-ply, etc.
10. **Wheel Hub -** The wheel hub is connected to the trailer's axle.
11. **Tire Rim -** Tires mounted on a tire rim. The tire rim must match the size of the tire.
12. **Lug Nuts -** Used to secure the wheel to the wheel hub. Always use a torque wrench to tighten down the lug nuts. See Table 4 and Figure 5 or lug nut tightening and sequence.
13. **Axle -** Indicates the maximum weight the axle can support in pounds, and the diameter of the axle expressed in inches (see Table 3). Please not that some trailers have a double axle. This will be shown as 2-6000 lbs., meaning two axles with a total weight capacity of 6000 pounds.
14. **Suspension -** Protects the trailer chassis from shocks transmitted through the wheels. Types of suspension used are leaf, Q-flex, and air ride.
15. **Electrical -** Electrical connectors (looms) are provided with the trailer so the brake lights and turn signals can be connected to the towing vehicle.
16. **Application -** Indicates which units can be employed on a particular trailer.

DCA-10SPX3 —TRAILER-SPECIFICATIONS

Table 1. Specifications

MODEL	APPLICATION	FUEL CELL	BRAKE SYSTEM	GVWR	FRAME LENGTH	FRAME WIDTH	JACK STAND
TRLR-10-15	TLG-12, DCA15, TLW-300	NO	NO	1900LBS	96"	50"	800LB. FULL TILT WHEEL
TRLR-10X	TLG-12, DCA15, TLW-300	NO	NO	1900LBS	96"	50"	800LB. FULL TILT WHEEL
TRLR-10XF	TLG-12, DCA15, TLW-300	51 GAL	NO	1900LBS	96"	50"	800LB. FULL TILT WHEEL
TRLR-225W	DCA-10	NO	NO	2200LBS	85"	42"	800LB. FULL TILT WHEEL
BLW-400	BLW-400	NO	ELECTRIC	2700LBS	W/MAST 154" W/O 124"	55" (78" TALL)	800LB. FULL TILT WHEEL
TRLR-15XF	DCA-15	41 GAL	NO	2700LBS	124"	55"	800LB. FULL TILT WHEEL
TRLR-50X	DCA-25	NO	NO	2700LBS	124"	55"	800LB. FULL TILT WHEEL
TRLR-50XF	DCA-25	41 GAL	NO	2700LBS	124"	55"	800LB. FULL TILT WHEEL
TRLR-25SBT	DCA-25	NO	NO	2990LBS	120"	66"	800LB. FULL TILT WHEEL
TRLR-70W	DCA-45, -60, 70	NO	SURGE	7000LBS	186"	77"	2000LB. FLAT PAD
TRLR-70X	DCA-45, -60, 70	OPT	SURGE	7000LBS	138"	66"	2000LB. FLAT PAD
TRLR-70XF	DCA-45, -60, 70	53 GAL	SURGE	7000LBS	138"	66"	2000LB. FLAT PAD
TRLR-100XF	DCA-100, 125	150 GAL	HYDRAULIC SURGE	7000LBS	190"	76"	2000LB. FLAT PAD
TRLR-85/125	DCA-85, 100, 125	145 GAL	HYDRAULIC	10000LBS	186"	77"	2000LB. FLAT PAD
TRLR-150XF	DCA-150, 180	200 GAL	HYDRAULIC SURGE	11160LBS	204"	84"	5000 LB. FLAT PAD
TRLR-220XF	DCA-220	250 GAL	HYDRAULIC SURGE	14000LBS	222"	83"	5000 LB. FLAT PAD
TRLR-300XF	DCA-300	250 GAL	HYDRAULIC SURGE	18000LBS	238"	83"	5000 LB. FLAT PAD
TRLR-400XF	DCA-400	350 GAL	ELECTRIC	18000LBS	238"	83"	5000 LB. FLAT PAD
TRLR-600XF	DCA-600, 800	550 GAL	AIR	30000LBS	384"	96"	5000 LB. FLAT PAD
TRLR-800SX	DCA-600, 800	550 GAL	AIR	30000LBS	384"	96"	5000 LB. FLAT PAD

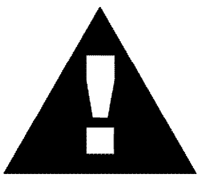
DCA-10SPX3 —TRAILER-SPECIFICATIONS

Table 1. Specifications (Con't)							
MODEL	COUPLER	TIRES	WHEELS	AXLE	HUBS	SUSPENSION	ELECTRICAL
TRLR-10-15W	2" BALL CLASS 2 ADJUSTABLE	175-13C	13"X4.50"	2200# 2X2	5 LUG	3 LEAF	4 WIRE LOOM W/ 4 POLE FLAT
TRLR-10X	2"BALL CLASS 2 ADJUSTABLE	175-13C	13"X4.5"	2200#2X2	5 LUG	3 LEAF	4 POLE FLAT
TRLR-10XF	2"BALL CLASS 2 ADJUSTABLE	175-13C	13"X4.5"	2200#2X2	5 LUG	3 LEAF	4 POLE FLAT
TRLR-225W	2"BALL CLASS 2 ADJUSTABLE	175-13B	13X4.5"	2200#2X2	5 LUG	Q FLEX	4 POLE FLAT
BLW 400	2"BALL CLASS 2 ADJUSTABLE	175-13C	13 X 4.5"	2200#2X2	5 LUG	3 LEAF	4 POLE FLAT
TRLR-15XF	2" BALL CLASS	B78-13LRC	13"X4.50"	3500# 2-1/2"	5 LUG	4 LEAF	4 POLE RUBBER FLAT
TRLR-50X	2" BALL CLASS	B78-13LRC	13"X4.50"	3500lbs. 2-3/8"	5 LUG	4 LEAF	4 POLE RUBBER FLAT
TRLR-50XF	2" BALL CLASS	B78-13LRC	13"X4.50"	3500lbs. 2-3/8"	5 LUG	4 LEAF	4 POLE RUBBER FLAT
TRLR-70W	2" BALL CLASS 3" ADJUSTABLE	205-14C BIAS (4)	14"X5"	3500lbs. 3"	5 LUG	5 LEAF	4 POLE RUBBER FLAT
TRLR-70X	2" BALL CLASS 3" ADJUSTABLE	205-14C BIAS (4)	14"X5"	3500lbs 3"	5 LUG	5 LEAF	4 POLE RUBBER FLAT
TRLR-70XF	2" BALL CLASS 3" ADJUSTABLE	205-14C BIAS (4)	14"X5"	3500lbs. 3"	5 LUG	5 LEAF	4 POLE RUBBER FLAT
TRLR-100XF	ADJUSTABLE 2-5/6 OPT 3" EYE	205-15C BIAS (4)	14"X5.5"	3500lbs 3"	5 LUG	5 LEAF	4 WIRE LOOM
TRLR-85/125	ADJUSTABLE 2-5/6 OPT 3" EYE	ST225/75R15D RADIAL (4)	14"x6"	(2)-6000lbs	6 LUG	7 LEAF	4 WIRE LOOM
TRLR-150XF	3" BALL EYE	750-16 E BIAS (4)	16"X7"	(2)-6000lbs	8 LUG	7 LEAF	4 WIRE LOOM
TRLR-220XF	3" EYE ADJUSTABLE	ST235/85R16E RADIAL(4)	16"X7"	(2)-7000lbs	8 LUG	Q FLEX	4 WIRE LOOM
TRLR-300XF	3" EYE ADJUSTABLE	ST235/85R16E RADIAL(6)	16"X7"	(2)-6000lbs	8 LUG	Q FLEX	4 WIRE LOOM
TRLR-400XF	3" EYE ADJUSTABLE	ST235/85R16E RADIAL(6)	16"X7"	(3)-7000lbs.	8 LUG	Q FLEX	4 WIRE LOOM
TRLR-600XF	5TH WHEEL	ST215/75R17.5H RADIAL (8)	16"X7"	(3)-10000lbs	8 LUG	7 LEAF	6 WIRE LOOM
TRLR-800AR	5TH WHEEL	ST215/75R17.5H RADIAL (8)	16"X7"	(3)-10000lbs	8 LUG	AIR-RIDE	6 WIRE LOOM

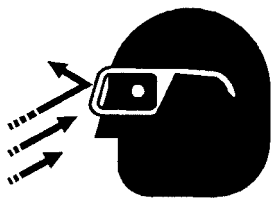
Tires/Wheels/Lug Nuts

Tires and wheels are a very important and critical components of the trailer. When specifying or replacing the trailer wheels it is important the wheels, tires, and axle are properly matched.

CAUTION:



DO NOT attempt to repair or modify a wheel. DO NOT install in inner tube to correct a leak through the rim. If the rim is cracked, the air pressure in the inner tube may cause pieces of the rim to explode (break off) with great force and cause serious eye or bodily injury.

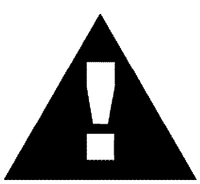


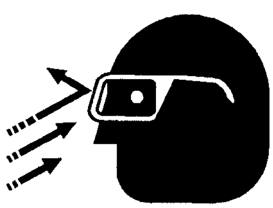
Tire Wear/Inflation

Tire inflation pressure is the most important factor in tire life. Pressure should be checked cold before operation DO NOT bleed air from tires when they are hot. Check inflation pressure weekly during use to insure the maximum tire life and tread wear.

Table 2 (Tire Wear Troubleshooting) will help pinpoint the causes and solutions of tire wear problems.

CAUTION:





> NOTE
>
> ALWAYS wear safety glasses when removing or installing force fitted parts. Failure to comply may result in serious injury.

TABLE 2. TIRE WEAR TROUBLESHOOTING

WEAR PATTERN	CAUSE	SOLUTION
Center Wear	Over Inflation.	Adjust pressure to particular load per tire manufacturer.
Edge Wear	Under Inflation.	Adjust pressure to particular load per tire manufacturer.
Side Wear	Loss of camber or overloading.	Make sure load does not exceed axle rating. Align wheels.
Toe Wear	Incorrect toe-in.	Align wheels.
Cupping	Out-of-balance.	Check bearing adjustment and balance tires.
Flat Spots	Wheel lockup & tire skidding.	Avoid sudden stops when possible and adjust brakes.

Suspension

The leaf suspension springs and associated components (Figure 2) should be visually inspected every 6,000 miles for signs of excessive wear, elongation of bolt holes, and loosening of fasteners. Replace all damaged parts (suspension) immediately. Torqued suspension components as detailed in Table 3.

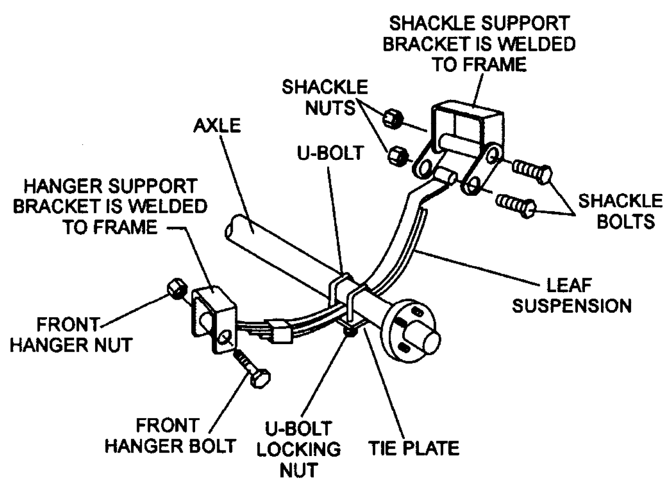


Figure 2. Major Suspension Components

Table 3. Suspension Torque Requirements	
Item	**Torque (Ft.-Lbs.)**
3/8" U-BOLT	MIN-30 MAX-35
7/16" U-BOLT	MIN-45 MAX-60
1/2" U-BOLT	MIN-45 MAX-60
SHACKLE BOLT SPRING EYE BOLT	SNUG FIT ONLY. PARTS MUST ROTATE FREELY. LOCKING NUTS OR COTTER PINS ARE PROVIDED TO RETAIN NUT-BOLT ASSEMBLY.
SHOULDER TYPE SHACKLE BOLT	MIN-30 MAX-50

Lug Nut Torque Requirements

It is extremely important to apply and maintain proper wheel mounting torque on the trailer. Be sure to use only the fasteners matched to the cone angle of the wheel. Proper procedure for attachment of the wheels is as follows:

1. Start all wheel lug nuts by hand.
2. Torque all lug nuts in sequence. See Figure 3. DO NOT torque the wheel lug nuts all the way down. Tighten each lug nut in 3 separate passes as defined by Table 4.
3. After first road use, retorque all lug nuts in sequence. Check all wheel lug nuts periodically.

Table 4. Tire Torque Requirements			
Wheel Size	First Pass FT-LBS	Second Pass FT-LBS	Third Pass FT-LBS
12"	20-25	35-40	50-65
13"	20-25	35-40	50-65
14"	20-25	50-60	90-120
15"	20-25	50-60	90-120
16"	20-25	50-60	90-120

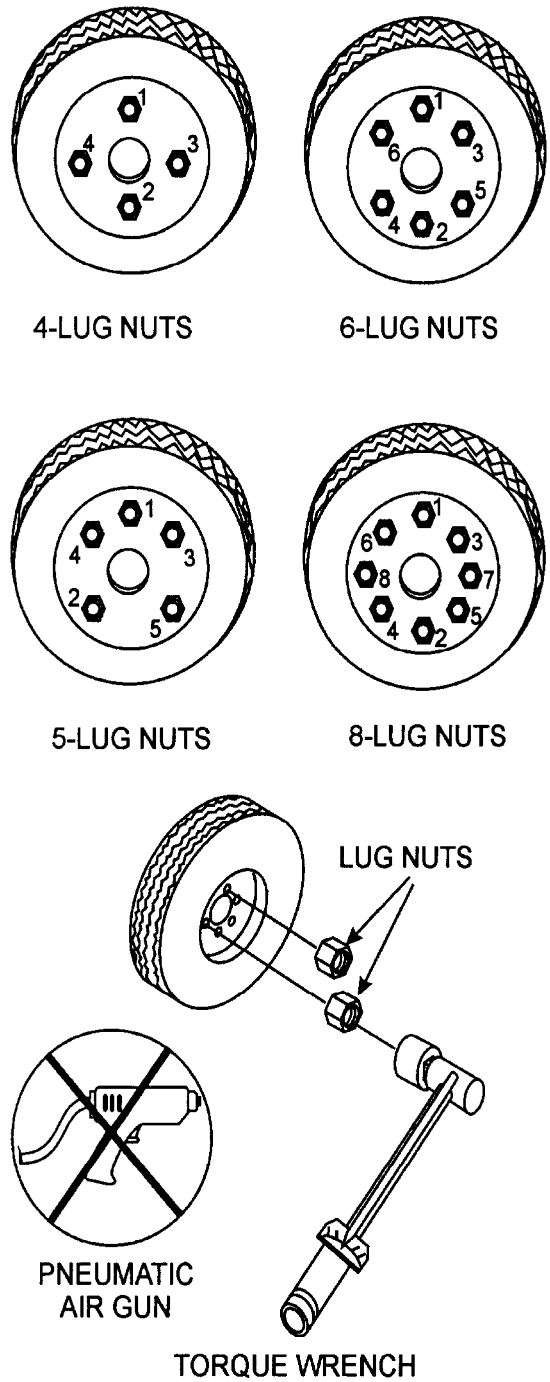
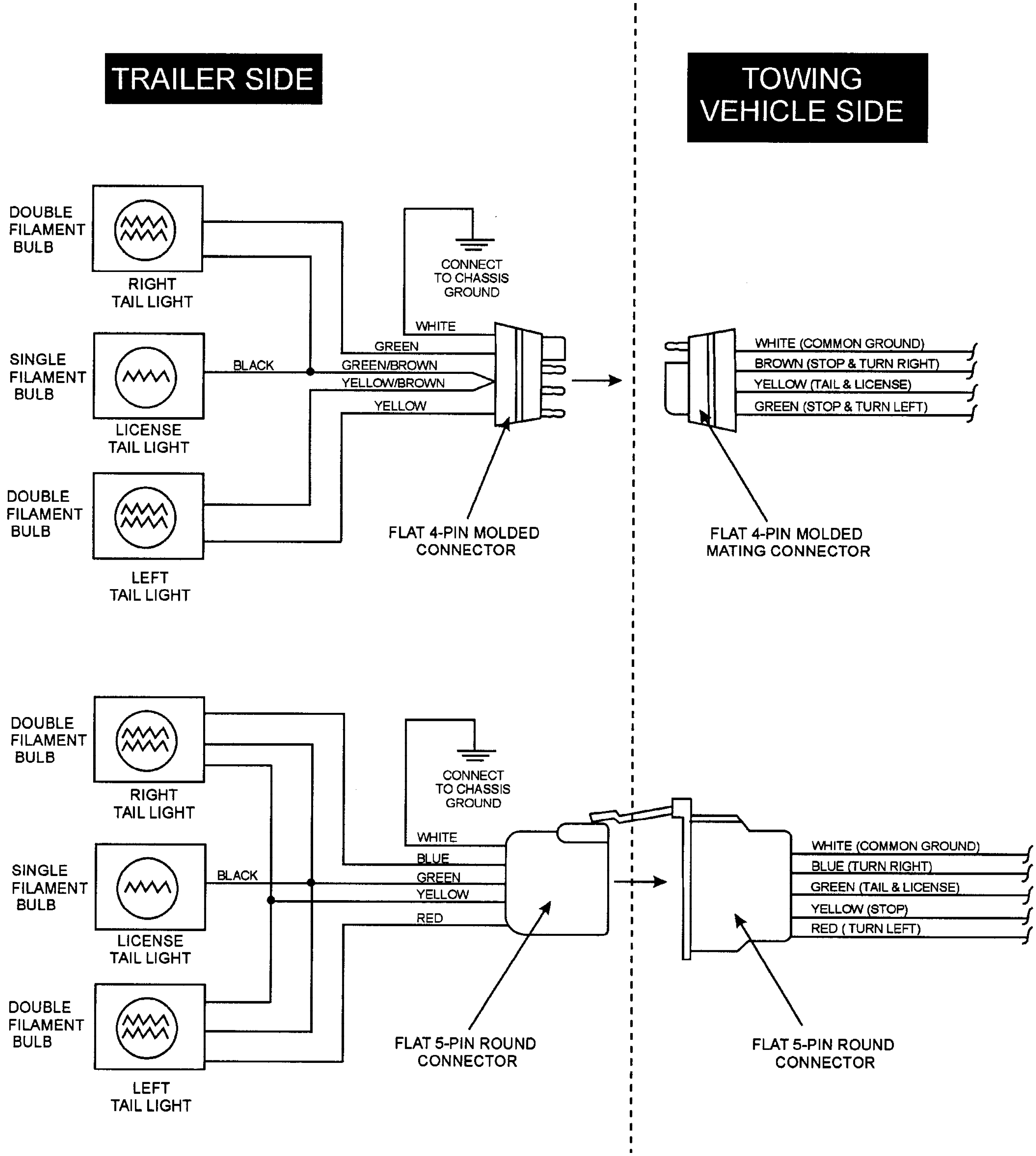


Figure 3. Wheel Lug Nuts Tightening Sequence

NOTE

NEVER use an pneumatic air gun to tighten wheel lug nuts.

DCA-10SPX3 —TRAILER-WIRING DIAGRAM



NOTE:
LIGHTS ARE ORIENTED FROM THE DRIVER'S SEAT

DCA-10SPX3 —OPERATION AND SAFETY DECALS

Machine Safety Decals

The DCA10SPX3 generator is equipped with a number of safety decals. These decals are provided for operator safety and maintenance information. The illustration below and on the preceding pages show these decals as they appear on the machine. Should any of these decals become unreadable, replacements can be obtained from your dealer.

WATER
DRAIN PLUG
S-1885

P/N 6360620104

OIL
DRAIN PLUG
S-1885

P/N 6360620204

WARNING!

Before connecting this generator to any building's electrical system, a licensed electrician must install an isolation (transfer) switch.

Serious injury or death may result without this transfer switch.

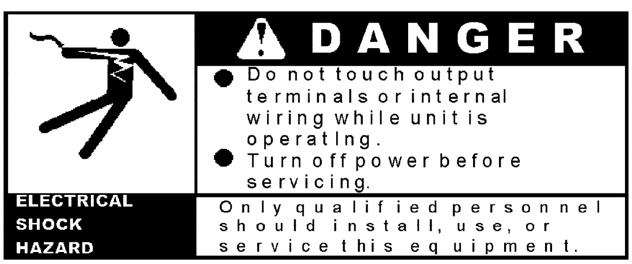
P/N 0820610404

SUPPORT HOOK

Never use it for lifting the unit.
Use the LIFT HOOK on the roof for lifting.

S-2257

P/N 1320621504



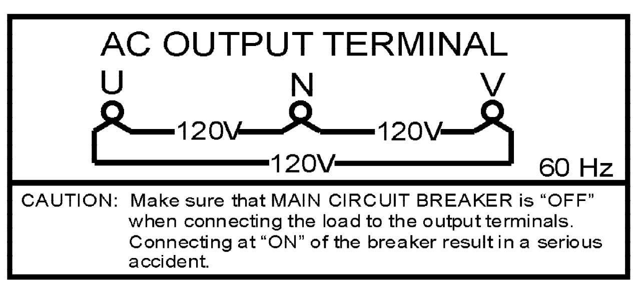
P/N 8700611904



P/N 8700611804

CAUTION:
DO NOT
OPERATE WITH
DOORS OPEN

P/N 1630610504



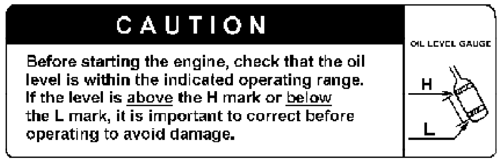
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DCA-10SPX3 —OPERATION AND SAFETY DECALS

Machine Safety Decals



P/N M0000001020Q



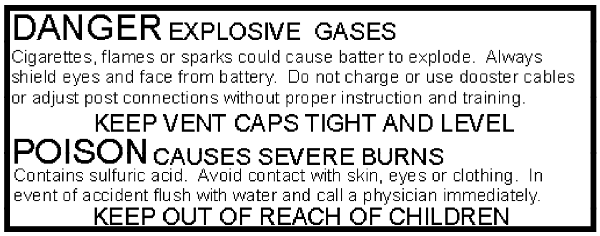
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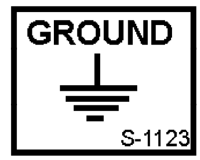
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P/N 16306 10304



P/N 0820650604



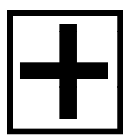
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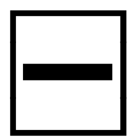
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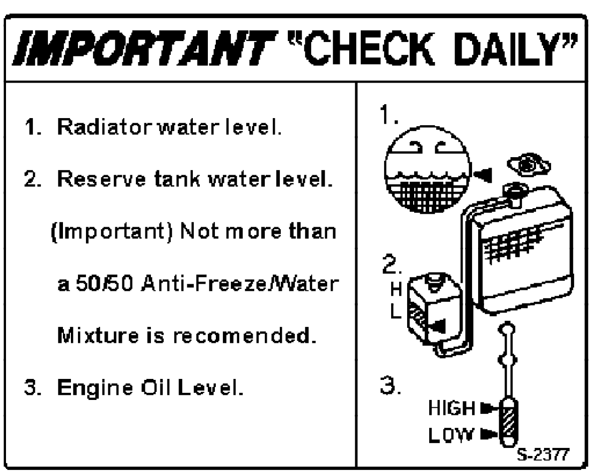
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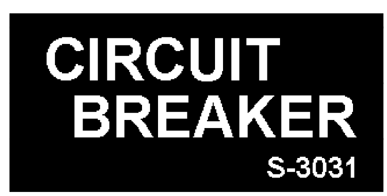
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P/N 0800689504



P/N 6390671104



P/N 0840624504



P/N 7670624004

DCA-10SPX3 — SPECIFICATIONS

Table 5. Specifications

Generator Specifications	
Model	DCA10SPX3
Type	Rotating-Field, Protection Type Synchronous Generator
Excitation	Brushless Type (With A.V.R)
Phase	Single Phase
Frequency	60 Hz
Wires	3-Wires (Neutral Grounded)
Max. Rated Output	10.5 kW/16.5 HP @ 1800 rpm
Continious Rated Output	10 kW/16.5 HP @ 1800 rpm
Single Phase Output Voltage	120/240 Volts
Frequency	60 Hz
Power Factor	100%
Rating	Continuous
Engine Specifications	
Model	KUBOTA D1403
Type	Vertical, 3-Cycle
No. of Cylinders	3
Displacement	1393 cu. in.
Bore X Stroke	3.15 in. X 3.64 in. (80 mm X 92.4 mm)
Cooling System	Water-Cooled
Starting System	Electric Start
Cooling Water Capacity	1.4 gal/5.3 liters
Lube Oil Capacity	1.77 gal/6.7 liters
Lubricant (API Class)	Above CC Grade
Battery	12V-70Ah
Fuel	Diesel Fuel Oil No. 2-D
Fuel Consumption	At full load 1.1 gal/hr./ 4.2 liters/hr. At 3/4 load 0.9 gal/hr./ 3.4 liters/hr. At 1/2 load 0.7 gal/hr./ 2.6 liters/hr. At 1/2 load 0.5 gal/hr./ 1.9 liters/hr.
Sound At Full Load	65 dbA (distance = 23 feet)
Dimensions (LxWxH)	56 x 26 x 36 in. (142 x 66 x 91 cm.)
Dry Weight	1123 lbs. (509 kg)

DCA-10SPX3 — GENERAL INFORMATION

DCA-10SPX3 3 FAMILIARIZATION

Generator

The MQ Power Model DCA-10SPX3 is a 10 kW ***generator*** that is designed as a high quality portable (requires a trailer for transport) power source for telecom sites, lighting facilities, power tools, submersible pumps and other industrial and construction machinery.

Control Panel

The control panel is provided with the following:

- One GFCI 120 volt receptacle, 20 amp (single-phase)
- 10 kW Output Terminal (UNV)
- Main Circuit Breaker 45 amps
- GFCI Circuit Breaker 20 amps
- AC Ammeter
- AC Voltmeter
- Output Voltage Adjustment
- Ignition Switch
- Water Temperature Gauge
- Oil Pressure Gauge
- Warning Indicator
- Frequency Meter (Hz)
- Hour Meter
- Ground Terminal

Open Delta Excitation System

The DCA-10SPX3 generator is equipped with the state of the art "***Open-Delta***" excitation system. The open delta system consist of an electrically independent winding wound among stationary windings of the AC output section.

There are four Leads: A, B, C and D. During light loads, the power to the ***Automatic Voltage Regulator*** (AVR) is supplied from the leads of B & C, when loads increase, the AVR switches and accepts power from leads A & D. The output of leads A & D increase proportionally with load. This has the effect of adding the voltages of each phase to provide better voltage response during heavy loads.

The connections of the AVR to the AC output windings are for the sole purpose of sensing only. No power is required from these windings.

The open-delta design provides virtually unlimited excitation current due to its independent power supply offering maximum motor starting capabilities. The excitation does not have a "***fixed ceiling***" and responds according the demands of the required load.

Engine

The **DCA-10SPX3** is powered by a 3-cylinder KUBOTA Model D1403 ***diesel*** engine. This engine is designed to meet every performance requirement for the generator. Reference Table 5, page 19 for engine specifications.

In keeping with MQ Power's policy of constantly improving its products, the specifications quoted herein are subject to change without prior notice.

DCA-10SPX3 — MAJOR COMPONENTS

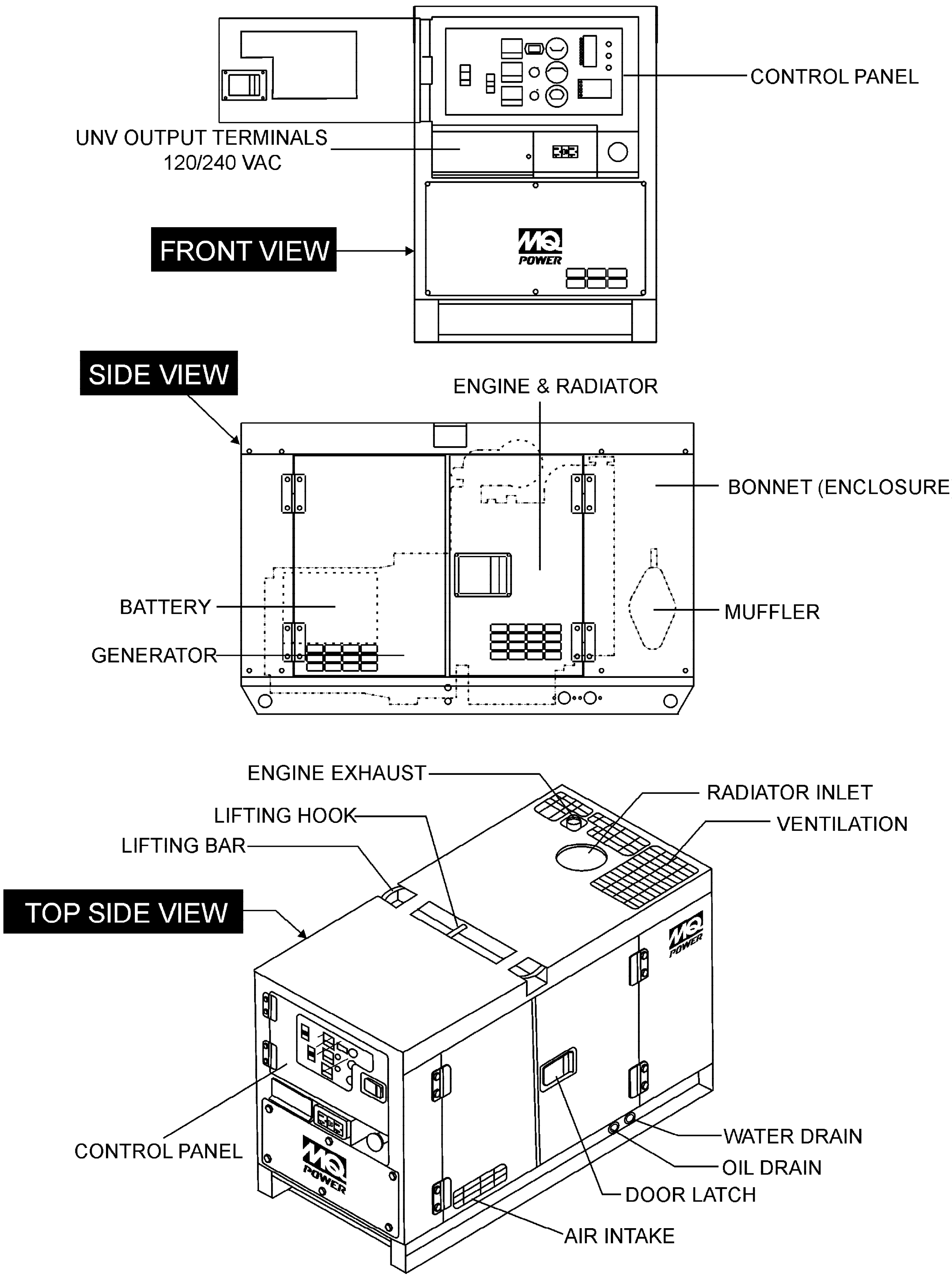


Figure 4. DCA10SPX3 Generator Major Components

DCA-10SPX3 — DIMENSIONS (TOP & SIDE)

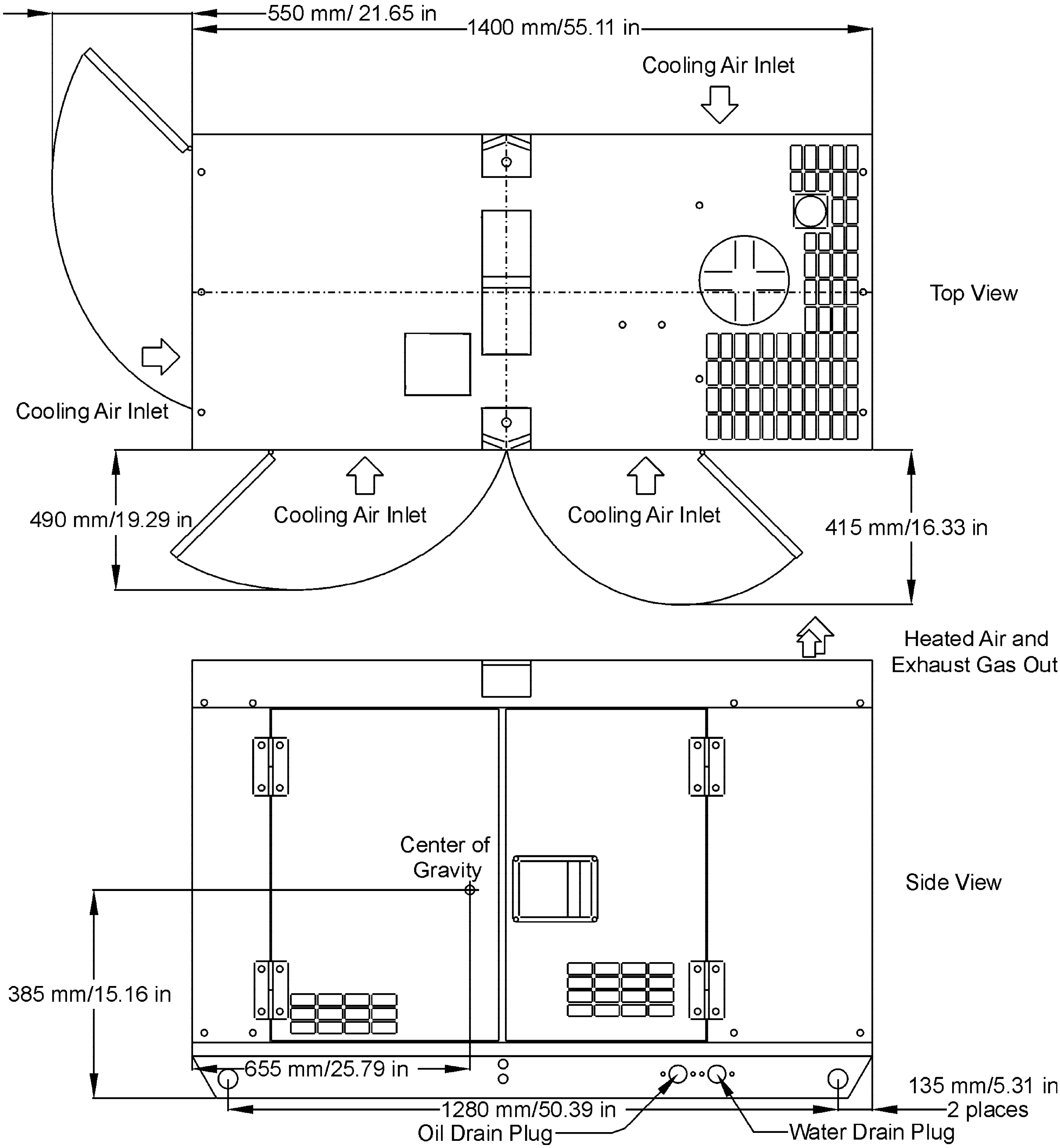


Figure 5a. Dimensions (Top & Side)

DCA-10SPX3 — DIMENSIONS (FRONT, REAR & BOTTOM)

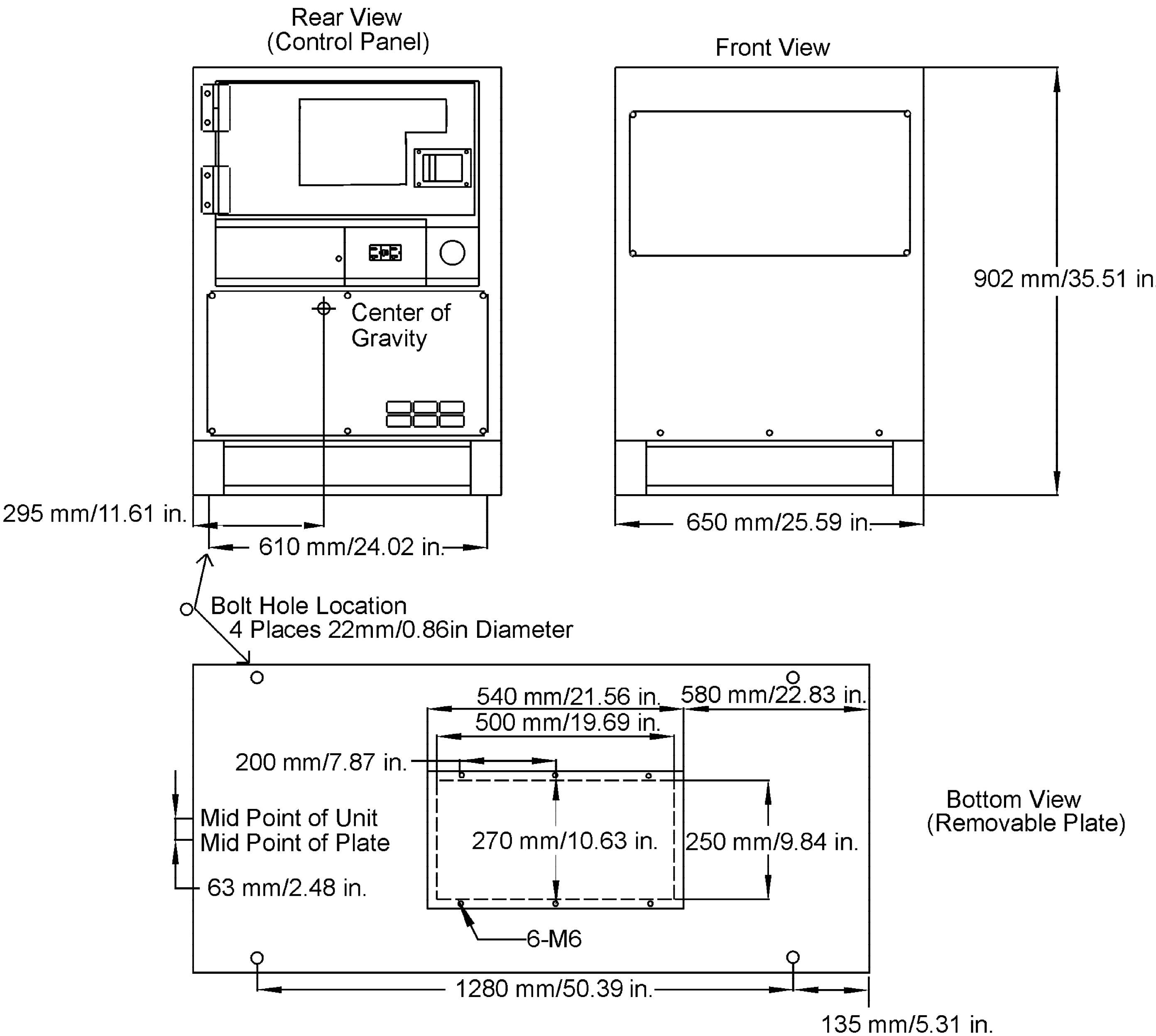
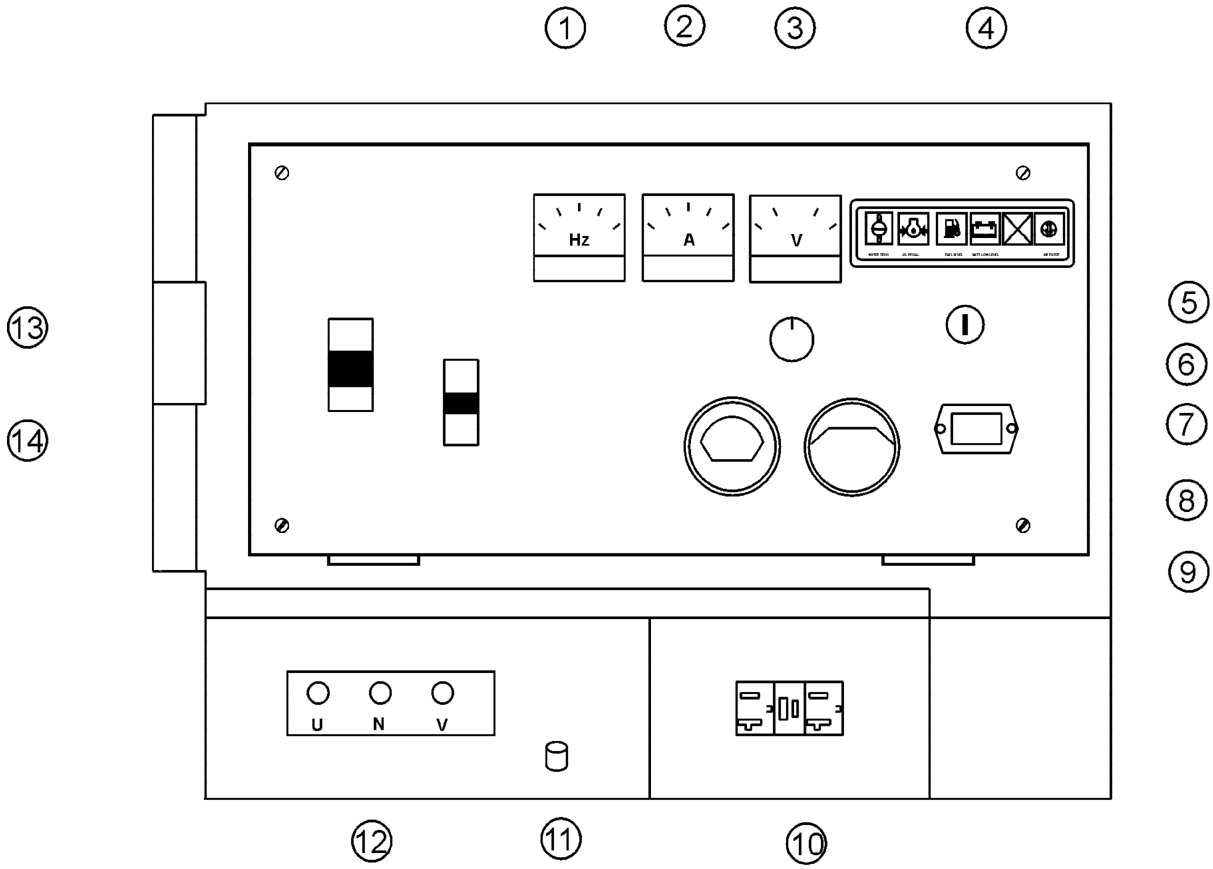


Figure 5b. Dimensions (Front, Rear)

DCA-10SPX3 — CONTROL PANEL, CONTROLS AND INDICATORS



NO.	DESCRIPTION
1	FREQUENCY METER
2	AC AMMETER
3	AC VOLTMETER
4	ENGINE WARNING INDICATOR
5	IGNITION SWITCH
6	VOLTAGE REGULATOR
7	HOUR METER
8	OIL PRESSURE GAUGE
9	WATER TEMPERATURE GAUGE
10	AC OUTPUT RECEPTACLE (GFCI 5-20R)
11	GROUND TERMINAL
12	AC OUTPUT TERMINAL (UNV)
13	AC CIRCUIT BREAKER (MAIN)
14	AC CIRCUIT BREAKER (FOR GFCI)

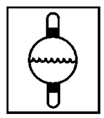
Figure 6. Control Panel

DCA-10SPX3 — CONTROL PANEL, CONTROLS AND INDICATORS

The definitions below describe the controls and functions of the DCA-10SPX3 (Figure 6):

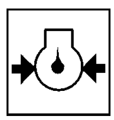
1. **Frequency Meter –** Indicates the output frequency in hertz (Hz). Normally 60 Hz ±1 Hz .
2. **AC Ammeter –** Indicates the amount of current the load is being drawn from the generator.
3. **AC Voltmeter –** Indicates the single phase output voltage present at the UNV terminals.
4. **Engine Warning Display Module –** This module displays the following engine failures:

A. **Overheat Lamp –** This lamp goes ON when the coolant is over 215°F. If the lamp goes ON during normal operation of the generator, the emergency shut-down device will stop the engine automatically.



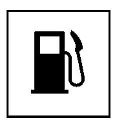
WATER TEMP.

B. **Low Oil Pressure Lamp –** During normal operation of the generator this lamp should remain OFF. After the oil pressure rises after start-up, the lamp will go OFF. If this lamp is ever lit (ON) during normal operation of the generator, the emergency shut-down device will stop the engine automatically.



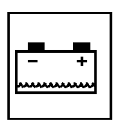
OIL PRESS.

C. **Low Fuel Level Lamp –** When this lamp is ON, it is time to stop the engine and add fuel. Remember to let the engine cool before adding fuel.



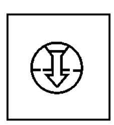
FUEL LEVEL

D. **Low Battery Fluid Lamp –** This lamp goes ON when the battery fluid is low. If this lamp goes ON during normal operation of the generator, stop the engine and fill the battery with distilled water to the specified level.



BATT. LOW LEVEL

E. **Clogged Air Filter Lamp –** This lamp goes ON when the air filter is clogged. If this lamp goes ON during normal operation of the generator, stop the engine and replace the air filter.



AIR FILTER

5. **Ignition Switch -** This switch turns on and off the engine with a key.
6. **Voltage Regulator Control –** Allows manual adjustment of the generator's output voltage.
7. **Hour Meter -** This meter monitors the number of hours the generator has been running. Use this meter to schedule regular maintenance.
8. **Oil Pressure Gauge –** During normal operation this gauge be should read in the “GREEN” zone. When starting the generator, the oil pressure mark reads higher, but after the engine warms up the oil pressure should return to the green zone.
9. **Water Temperature Gauge –** During normal operation this gauge be should read in the “GREEN” zone.
10. **A.C. GCFI Receptacle -** This output receptacle is used as a power source.
11. **Ground Terminal -** This is used to ground the generator.
12. **UNV Terminal -** Used to connect AC load for 120V or 240V single phase.
13. **Main Circuit Breaker –** This three-pole,20 amp main breaker is provided to protect the UNV voltage output terminals from overload.
14. **GCFI Receptacle Circuit Breaker -** This will shut down the output receptacle if there in an overload.

DCA10SPX3 OUTPUT TERMINAL

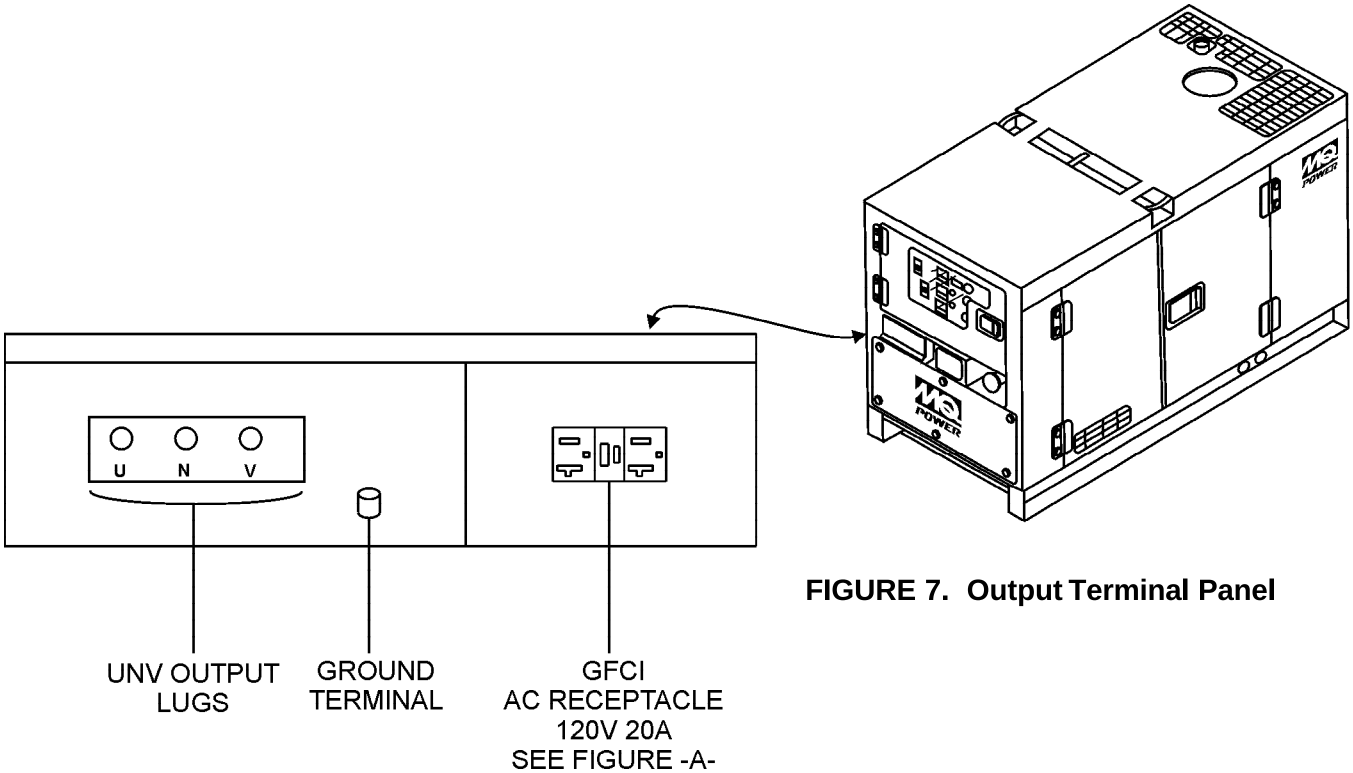


FIGURE 7. Output Terminal Panel

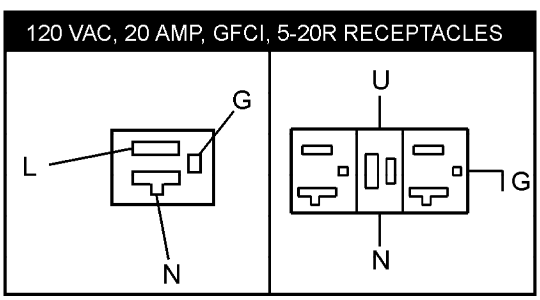


FIGURE 8. Duplex Receptacle Detail

120 Volt Recetacle

One GFCI Duplex Nema 5-20R (120V, 20 Amp) receptacle is provided on the output terminal. This receptacle can be used anytime the generator is in operation. The receptacle is controlled by the circuit breaker located on the control panel.

The reset button is for the GFCI when the circuit is tripped. Pressing the "Test Button" (See Figure 9) in the center of this receptacle will check the GFCI function. The receptacle should be tested at least once a month.

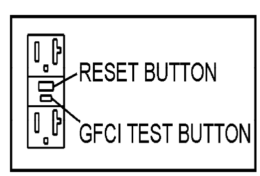


Figure 9. GFCI Test Button

DCA10SP3X OUTPUT TERMINAL

Output Terminal Panel Available Voltages
The DCA10SPX3 is a single phase generator only. It is able to supply both 120 volt and 240 volt.

Maximum Amps
The DCA-10SPX3 can provide 41.7 amps at 120 or 240 volts. **Do not exceed the maximum amps!**

120V Hard Wire Hookup

The output terminal panel, when suppling single phase 120 volts, will provide two circuits available at 41.7 amps with any two wires plus the ground. (See Figure 10 below.)

240V Hard Wire Hookup

The output terminal panel, when suppling single phase 240 volts, will provide one circuit available at 41.7 amps with two wires plus the ground. (See Figure 11 below.)

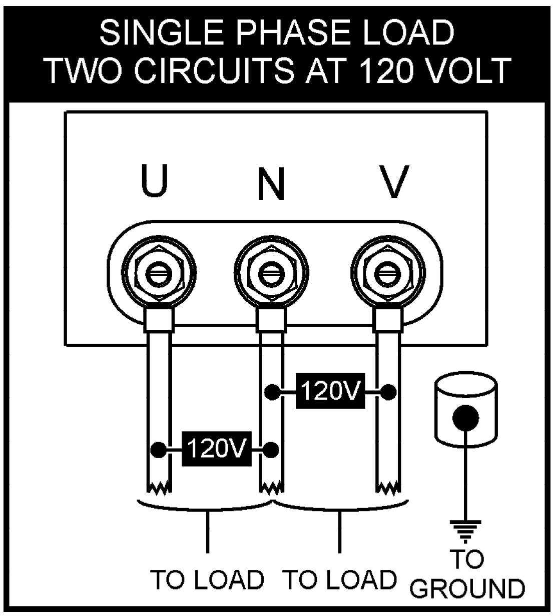


Figure 10. Hard Wire Hook-up for 120 Volt

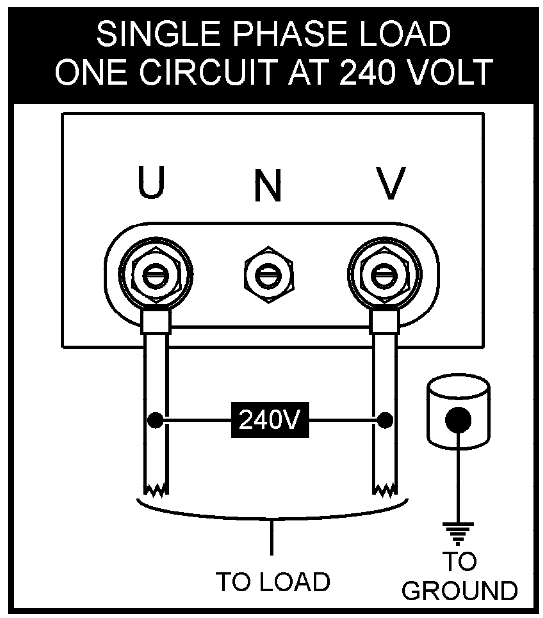


Figure 11. Hard Wire Hook-up for 240 Volt

> **NOTE**
>
> **When using plural single phase voltages, make sure to balance the load on each of the single phase legs.**

Outdoor Installation

Install the generator in a location where it is not exposed to rain or sunshine. Make sure the generator is on a secure level ground so that it cannot slide or shift around. Also install the generator in a manner so the exhaust will not be discharged in the direction of nearby homes.

The installation site must be away from excessive moisture and dust. All electrical equipment should be protected from excessive moisture. Failure to do will result in deterioration of the insulation and will result in short circuits and grounding.

Foreign materials such as dust, sand, lint and abrasive materials cause excessive wear, to the engine parts and the alternator parts.

CAUTION :

Pay close attention to ventilation when operating the generator inside tunnels and caves. The engine exhaust contains noxious elements. Engine exhaust **must** be routed to a ventilated area.

Indoor Installation

Exhaust gases from diesel engines are extremely poisonous. Whenever an engine is installed indoors the exhaust fumes must be vented to the outside. The engine should be installed at least two feet from any outside wall. Using an exhaust pipe which is too long or too small can cause excessive back pressure which will cause the engine to overheat.

Eliminate the danger of deadly carbon monoxide gas. Remember that exhaust fumes from any diesel engine are very poisonous if discharged in a closed room, but harmless if allowed to mix with the outside air. If the generator is installed indoors, you must make provisions from venting the engine exhaust to the outside of the building.

DO NOT cover ventilation areas on the enclosure. Covering the ventilation grids will cause the engine to overheat.

CAUTION :

An electric shock is apt to happen when vibrators are used. Pay close attention to handling when operating vibrators and always use rubber boots and gloves to protect the body from electrical shock.

Generator Grounding

To prevent electrical shock and possible damage to the equipment, it is important to provide a good EARTH ground.

Article 250 (Grounding) of the National Electrical Code (NEC) provides guide lines for proper grounding and specifies that the cable ground shall be connected to the grounding system of the building as close to the point of cable entry as practical.

NEC articles 250-64(b) and 250-66 set the following grounding requirements:

1. Use one of the following wire types to connect the generator to earth ground.
   a. Copper - 10 AWG (5.3 mm^2) or larger.
   b. Aluminum - 8 AWG (8.4 mm^2) or larger.
2. When grounding the generator (Figure 12) connect the ground cable between the lock washer and the nut on the generator and tighten the nut fully. Connect the other end of the ground cable to earth ground.
3. NEC article 250-52(c) specifies that the earth ground rod should be buried a minimum of 8 ft. into the ground.

NOTE

When connecting the generator to any buildings electrical system **ALWAYS** consult with a licensed electrician.

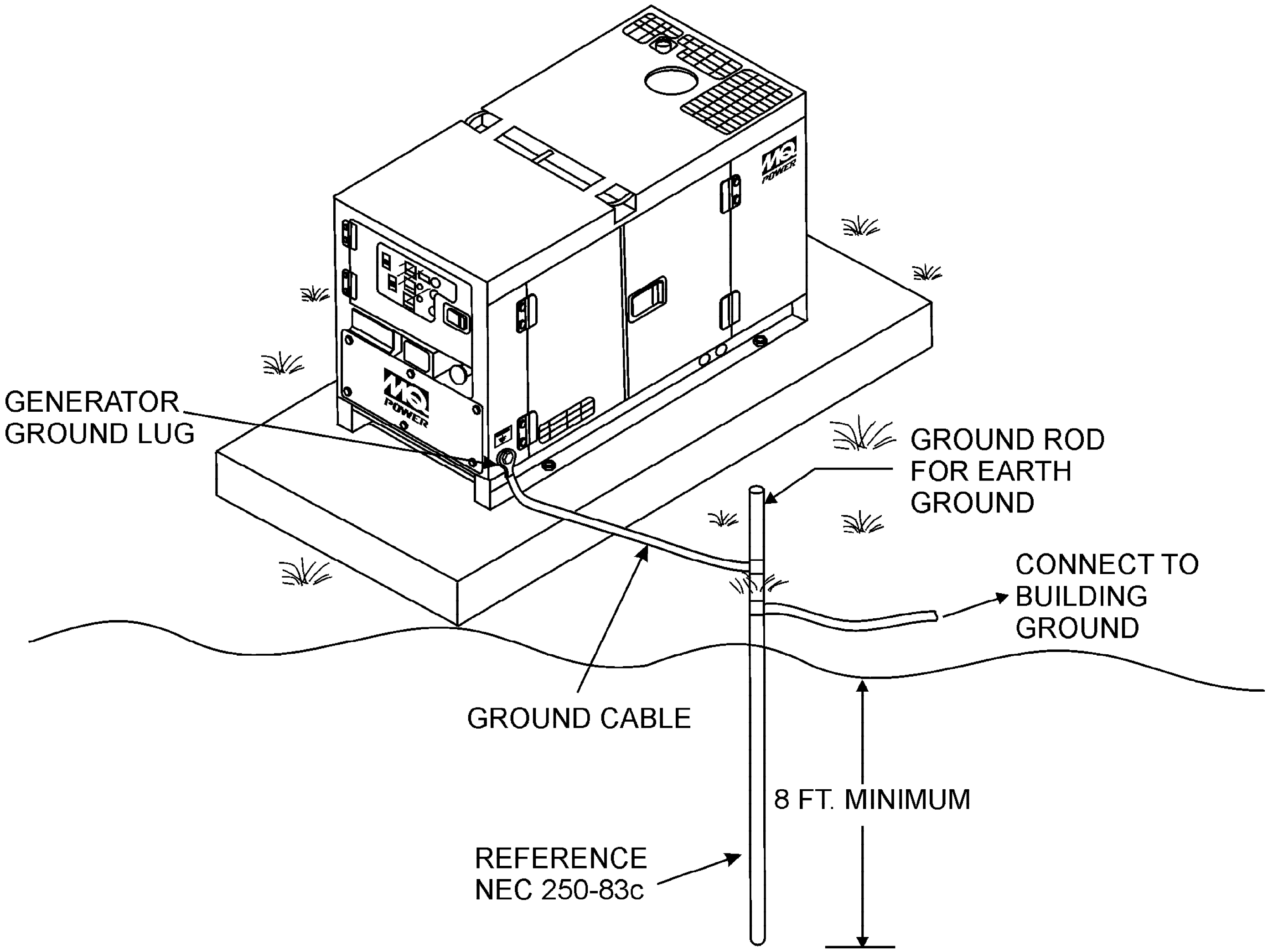
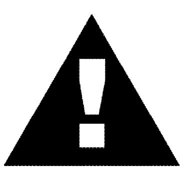


Figure 12. Typical Generator Grounding Application

CAUTION :



Always check local codes for proper grounding codes and laws.

DCA-10SPX3 — PRE-SETUP

General Inspection Prior to Operation

The DCA-10SPX3 generator has been thoroughly inspected and accepted prior to shipment from the factory. However, be sure to check for damaged parts or components, or loose nuts and bolts, which could have occurred in transit.

Extension Cable

When electric power is to provided to loads (ie. power tools) at a distance from the generator, extension cables are used. Cables should be sized to allow for distance in length and amperage so that the voltage drop between the generator and point of use (load) is held to a minimum. Use Table 6 (cable selection guide) as a guide for selecting proper cable size.

Circuit Breaker

To protect the generator from an overload, a 3-pole, 50 amp, ***main*** circuit breaker is provided to protect the UNV output from overload. In addition a 2-pole, 20 amp ***GFCI*** circuit breaker is provided to protect the GFCI receptacle from overload. Make sure to switch both circuit breakers to the "OFF" position prior to starting the engine.

NOTE

ALWAYS consult with a licensed electrician for correct extension cord wire size.

Table 6. Cable Selection (60 Hz, Single Phase Operation)

Current in Amperes	Load In Watts		Maximum Allowable Cable Length			
	At 120 Volts	At 240 Volts	#10 Wire	#12 Wire	#14 Wire	#16 Wire
2.5	300	600	1000 ft.	600 ft.	375 ft.	250 ft.
5	600	1200	500 ft.	300 ft.	200 ft.	125 ft.
7.5	900	1800	350 ft.	200 ft.	125 ft.	100 ft.
10	1200	2400	250 ft.	150 ft.	100 ft.	
15	1800	3600	150 ft.	100 ft.	65 ft.	
20	2400	4800	125 ft.	75 ft.	50 ft.	
CAUTION: Equipment damage can result from low voltage.						

Lubrication Oil

Fill the engine crankcase with lubricating oil through the filler hole, but do not overfill. Make sure the generator is level. With the dipstick inserted all the way, but without being screw into the filler hole, verify that the oil level is maintained between the two notches (Figure 13) on the dipstick. See Table 7 for proper selection of engine oil.

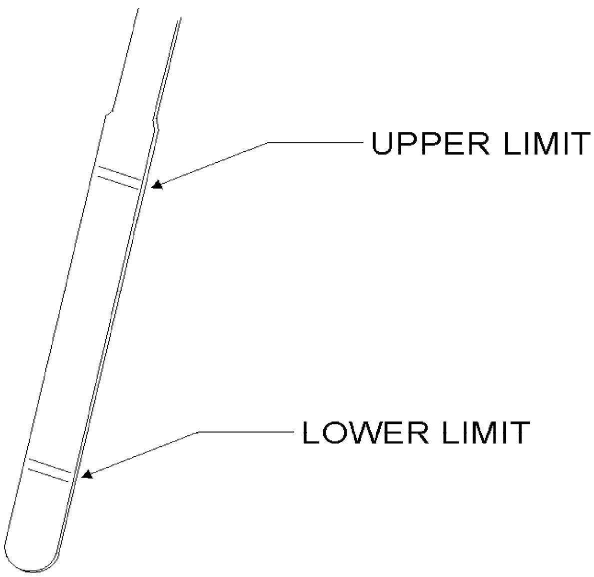


Figure 13. Engine Oil Dipstick

When checking the engine oil, be sure to check if the oil is clean and viscous. If the oil is dirty, drain the oil by removing the oil drain plug, and refill with the specified amount of oil as outlined in the **Kubota Engine Owner's Manual**.

Fuel

Fill the fuel tank with clean and fresh ***diesel fuel***. **DO NOT** fill the tank beyond capacity.

Pay attention to the fuel tank capacity when replenishing fuel. Refer to the fuel tank capacity listed on page 19 Specification Table 5.

The fuel tank cap must be closed tightly after filling. Handle fuel in a safety container. If the container does not have a spout, use a funnel. Wipe up any spilled fuel immediately.

CAUTION :

Never fill the fuel tank while the engine is running or in the dark. Gasoline spillage on a hot engine can cause a fire or explosion. If gasoline spillage occurs, wipe up the spilled gasoline completely to prevent fire hazards.

Coolant

Use only drinkable tap water. If hard water or water with many impurities is used, the inside of the engine and radiator may become coated with deposits and cooling efficiency will be reduced. See maintenance section on page 36 and 37 on instructions to flush out radiator.

An anticorrosion additive added to the water will help prevent deposits and corrosion in the cooling system.

Table 7. Recommended Motor Oil

Temperature Range	Type Oil
104° F ~ 23° F (40° C ~ -5°C)	SAE 30
23° F ~ 5° F (-5° C ~ -15°C)	SAE 20 or SAE 10W-30
Below 5° C (-15°)	SAE 10W or SAE 10W-30

CAUTION :

When adding coolant or antifreeze to the radiator, do not remove the radiator cap until the unit has completely cooled.

Day-to-day addition of coolant is done from the reserve tank. When adding coolant to the radiator, **DO NOT** remove the radiator cap until the unit has completely cooled. See Table 8. for engine, radiator, and reserve tank coolant capacities. Make sure the coolant level in the reserve tank is always between the "H" and the "L" markings.

Table 8. Coolant Capacity	
Engine and Radiator	1.3 Gal. (4.9L)
Reserve Tank	0.27 Gal. (1L)

Operation in Freezing Weather
When operating in freezing weather, be certain the proper amount of antifreeze (Table 9) has been added.

Table 9. Anti-Freeze Operating Temperatures

Vol % Anti-Freeze	Freezing Point		Boiling Point	
	°C	°F	°C	°F
40	-24	-12	106	222
50	-37	-34	108	226

NOTE

When the antifreeze is mixed with water, the antifreeze mixing ratio must be less than 50%.

Cleaning the Outer Radiator
The engine may overheat if the radiator fins become overloaded with dust or debris. Periodically clean the radiator fins with compressed air. Cleaning inside the radiator is dangerous, so clean only with the engine turned off and the battery disconnected.

Air Cleaner
Periodic cleaning/replacement is necessary. Inspect it in accordance with the **Kubota Engine Owner's Manual**.

Fan Belt Tension
A slack fan belt may contribute to overheating, or to insufficient charging of the battery. Inspect the fan belt for damage and wear and adjust it in accordance with the **Kubota Engine Owner's Manual**.

The fan belt tension is proper if the fan belt bends 10 to 15 mm (Figure 14) when depressed with the thumb as shown below. Never place hands near the belts or fan while the generator is running.

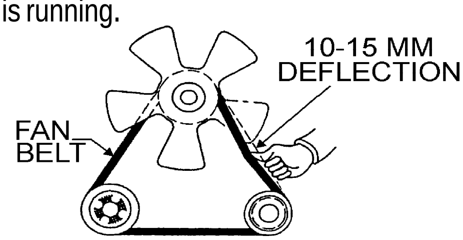


Figure 14. Fan Belt Tension

CAUTION :

Never place hands near the belts or fan while the generator set is running.

Adjusting Fan Belt
If the fan belt does not have the 10 to 15mm defection, follow the procedure below to adjust:

- Loosesn the alternator adjusting plate and alternator mounding bolt.
- Pivot the alternator at the mounting bolt toward the engine left or right until the belt reflects the proper tension.
- Tighten the mounting bolt and the adjusting bolt.

Battery

This unit is of negative ground. **DO NOT** connect in reverse. Always maintain battery fluid level between the specified marks. Battery life will be shortened, if the fluid level is not properly maintained. Add only distilled water when replenishment is necessary. DO NOT over fill.

The battery is sufficiently charged if the specific gravity of the battery fluid is 1.28 (at 68° F). If the specific gravity should fall to 1.245 or lower, it indicates that the battery is dead and needs to be recharged or replaced.

Check to see whether the battery cables are loose. Poor contact may result in poor starting or malfunctions. Always keep the terminals firmly tightened. Coating the terminals with a thin film of grease will help to inhibit corrosion.

Battery Cable Installation

ALWAYS be sure the battery cables (Figure 15) are properly connected to the battery terminals as shown below. The ***RED*** cable is connected to the positive terminal of the battery, and the **BLACK** cable is connected to the negative terminal of the battery.

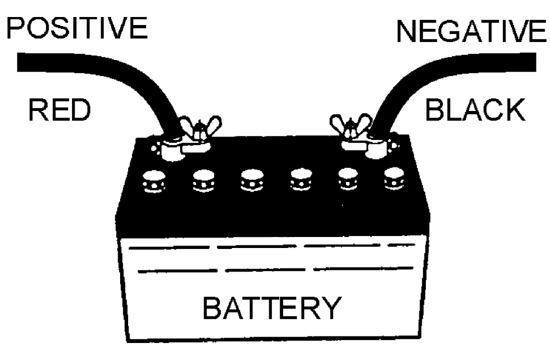


Figure 15. Battery Connections

CAUTION :

If the battery cable is connected incorrectly, damage to the generator will occur. Pay close attention to the polarity of the battery when connecting the battery.

When connecting battery do the following:

1. **DO NOT** connect the battery cables to the battery terminals when the key is in the ignition and is set in 'START' mode. ALWAYS remove the key from the ignition and the ignition switch is in the OFF position when connecting the battery.
2. Place a small amount of grease around both battery terminals. This will ensure a good connection and will help prevent corrosion around the battery terminals.

CAUTION :

Inadequate battery connections may cause poor starting of the generator, and create other malfunctions.

Wiring

Inspect the entire generator for bad or worn electrical wiring or connections. If any wiring or connections are exposed (insulation missing) replace wiring immediately.

Piping and Hose Connection

Inspect all piping, oil hose, and fuel hose connections for wear and tightness. Tighten all hose clamps and check hoses for leaks.

If any hose (fuel or oil) lines are defective replace them immediately.

Single Phase, Load

Always be sure to check the nameplate on the generator and equipment to insure the wattage, amperage and frequency requirements are satisfactorily supplied by the generator for operating the equipment.

Generally, the wattage listed on the nameplate of the equipment is its rated output. Equipment may require 130—150% more wattage than the rating on the nameplate, as the wattage is influenced by the efficiency, power factor and starting system of the equipment.

> **NOTE**
> If wattage is not given on the equipment's name plate, approximate wattage may be determined by multiplying nameplate voltage by the nameplate amperage.
>
> WATTS = VOLTAGE x AMPERAGE

The power factor of this generator is 1.0. See Table 10. below when connecting loads.

Table 10. Power Factor By Load

Type Of Load	Power Factor
Single-phase induction motors	0.4 - 0.75
Electric heaters, incandescent lamps	1.0
Fluorescent lamps, mercury lamps	0.4 - 0.9
Electronic devices, communication equipment	1.0

CAUTION:

Motors and motor-driven equipment draw much greater current for starting than during operation.

When connecting ordinary power tools, a capacity of up to the generating set's rated output (kW) multiplied by 0.8 can be used.

An inadequate size connecting cable which cannot carry the required load can cause a voltage drop which can burn out the appliance or tool and overheat the cable.

- When connecting a resistance load such as an incandescent lamp or electric heater, a capacity of up to the generating set's rated output (kW) can be used.
- When connecting a fluorescent or mercury lamp, a capacity of up to the generating set's rated output (kW) multiplied by 0.6 can be used.
- When connecting an electric drill or other power tools, pay close attention to the required starting current capacity.

DCA-10SPX3 — GENERATOR START-UP PROCEDURE

WARNING:

The engine's exhaust contains harmful emissions. ***ALWAYS*** ventilate the exhaust when operating inside tunnels, excavations or buildings. Direct exhaust away from nearby personnel.

Before Starting

Engine

1. Check the lubricating oil level prior to starting the engine. Make sure the generator is level. The oil level must be maintained between two notches on the dipstick.
2. When there is not enough lubricating oil, fill the crankcase with high grade motor oil. Use a high quality detergent oil classified CC or higher (See Table 7 on page 29).
3. Check the coolant level in the radiator and subtank. Replenish with antifreeze as necessary. Always maintain the coolant level between the **FULL** and **LOW** markings on the coolant container. Be sure that the radiator cap is fastened securely.
4. Check the fuel level on the fuel gauge. If fuel is low, fill the fuel tank with clean fresh unleaded automotive diesel fuel. If fuel spillage occurs, completely wipe up the spilled fuel immediately.

Before Starting

Generator and Control Panel

CAUTION:

NEVER start the engine with the ***main*** or ***GFCI*** circuit breakers in the **ON** position.

1. Be sure to disconnect the electrical load and switch the ***main*** and ***G.F.C.I.*** circuit breakers (Figure 16) to the "OFF" position prior to starting the engine.

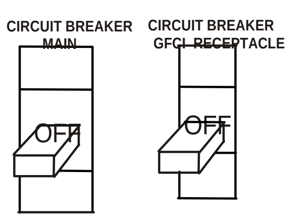


Figure 16. Main and GFCI Circuit Breakers

2. Connect the load to the UNV terminals as shown in Figure 17. These terminals can be found on the front of the generator by lifting the UNV lug cover. It may be necessary to remove the retaining lug that secures the cover. Make sure to tighten terminal nuts securely to prevent load wires from slipping out.

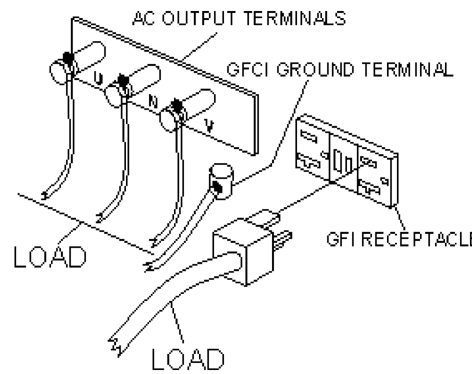


Figure 17. UNV Terminal Lugs (Load)

3. After attaching the load wires to the AC output terminals, secure the UNV cover by inserting the retaining screw (Figure 18) back into the cover.

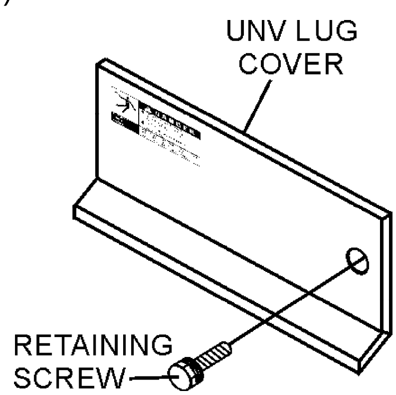


Figure 18. UNV Lug Cover

DCA-10SPX3 — GENERATOR START-UP PROCEDURE

4. Connect the negative battery cable (BLACK) to the negative post on the battery (Figure 19).

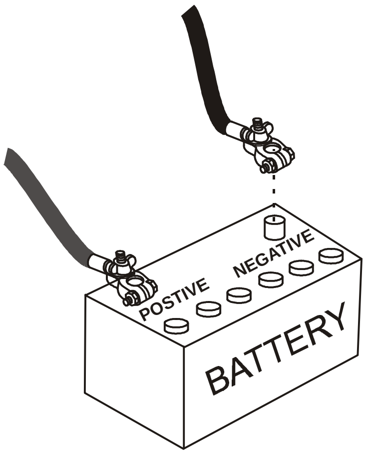


Figure 19. Battery Connections

5. Close all engine enclosure doors (Figure 20).

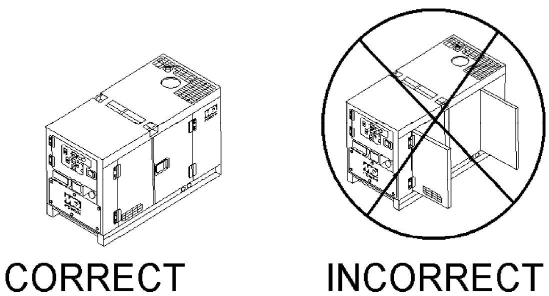


Figure 20. Engine Enclosure Doors

6. Before starting the generator, turn the key to preheat (Figure 21) until the warning indicator light turns off. Then turn the key to the right to 'Start'(Figure 22). Once the engine starts, release the key.

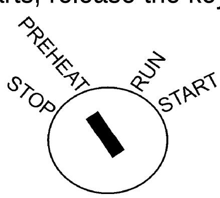


Figure 21. Ignition Switch (Preheat)

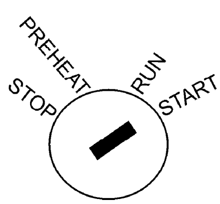


Figure 22. Ignition Switch (Start)

7. The ammeter (Figure 23) will indicate zero amps with no load applied. When a load is applied, this meter will indicate the amount of current that the load is drawing from the generator.

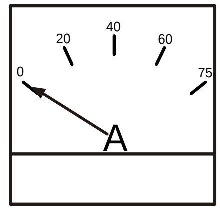


Figure 23. Ammeter (No Load)

8. The engine oil pressure gauge (Figure 24) will indicate the oil pressure (kg/ cm^2) of the engine. Under normal operating conditions the oil pressure is approximately 25 psi.

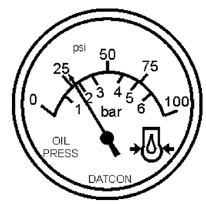


Figure 24. Oil Pressure Gauge

9. The water temperature gauge (Figure 25) will indicate the coolant temperature. Under normal operating conditions the coolant temperature is between 165 and 215 degrees fahrenheit.

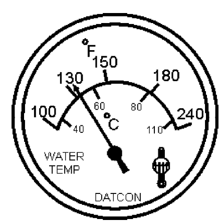


Figure 25. Coolant Temperature Gauge

DCA-10SPX3 — GENERATOR SHUT-DOWN PROCEDURE

10. The battery voltage gauge (Figure 26) will indicate the voltage of the battery when the generator is operating. Under normal operating conditions this voltage is between 11.2 and 15.2 volts.

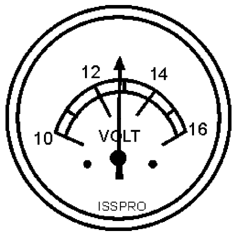


Figure 26. Battery Voltage Gauge

11. If there are no abnormal problems shown on the MPEC LED display, turn both the MAIN and GFCI circuit breakers to their ON position (Figure 27).

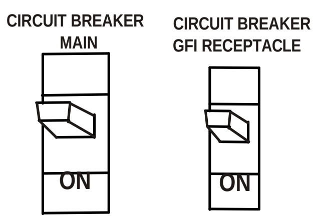


Figure 27. Main and GFCI Circuit Breakers

12. Observe at the generator's ammeter (Figure 28) and verify that it reads the anticipated amount of current with respect to the load. The ammeter will only display a current reading if the load is in use.

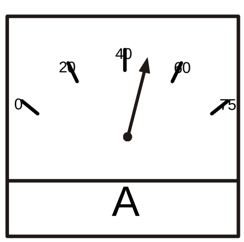


Figure 28. Ammeter (Load)

13. The generator will run until manually stopped or an abnormal condition occurs.

Engine Shutdown

To shutdown the generator use the following procedure:

1. Place both the **MAIN** and **GFCI** circuit breakers to the "OFF position" (Figure 29).

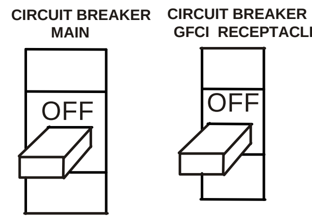


Figure 29. GFCI and Main Circuit Breaker (OFF)

2. Let the engine cool by running 3-5 minutes with no load applied.
3. Turn the key to the 'STOP' position to shut down the engine (Figure 30).

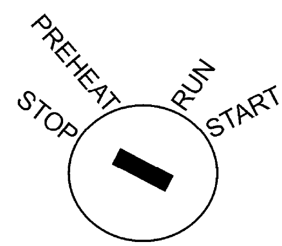


Figure 30. Ignition Switch (OFF)

General Inspection

Prior to each use, the generator should be cleaned and inspected for deficiencies. Check for loose, missing or damaged nuts, bolts or other fasteners. Also check for fuel, oil, and coolant leaks.

Engine Side (Refer to the Engine Instruction Manual)

Air Cleaner

Every 50 hours: Remove air cleaner element and clean heavy duty paper element with kerosene, or foam element with liquid detergent and hot water. Wrap foam element in a cloth and squeeze dry. For heavy duty paper element, wipe excess kerosene with towel.

Fuel Addition

Add diesel fuel (the grade may vary according to season and locations). Always pour through the mesh filter.

Removing Water from the Fuel Tank

After prolonged use, water and other impurities accumulate in the bottom of the tank. Occasionally remove the drain cock and drain the contents. During cold weather, the more empty volume inside the tank, the easier it is for water to condense. This can be reduced by keeping the tank full as much as possible.

Air Removal

If air enters the fuel injection system of a diesel engine, starting becomes impossible. After running out of fuel, or after disassembling the fuel system, bleed the system according to the following procedure.

To restart after running out of fuel, turn the switch to the “ON” position for 15-30 seconds. Try again, if needed. This unit is equipped with an automatic air bleeding system.

Service Daily

If the engine is operating in very dusty or dry grass conditions, a clogged air cleaner will result. This can lead to a loss of power, excessive carbon buildup in the combustion chamber in high fuel consumption.

Cleaning the Fuel Strainer

Clean the fuel strainer if it contains dust or water. Remove dust or water in the strainer cap and wash it in gasoline. Securely fasten the fuel strainer cap so that fuel will not leak. Check the fuel strainer every 200 hours of operation or once a month.

Check Oil Level

Check the crankcase oil level prior to each use, or when the fuel tank is filled. Insufficient oil may cause severe damage to the engine. Make sure the generator is level. The oil level must be between the two notches on the dipstick as shown in Figure 8, page 29.

Replacing Oil Filter

- Detach the oil filter cartridge with a filter wrench.
- Apply a film of oil to the gasket for the cartridge.
- Screw in the cartridge by hand. When the gasket is in contact with the seal surface, tighten the cartridge one or two more times by hand.
- After the oil cartridge has been replaced, the engine oil will drop slightly. Run the engine for a while and check for leaks before adding more oil if needed. Clean excessive oil from engine.

Replacing Fuel Filter

- Replace the fuel filter cartridge with new one every 400 hours or so.
- Apply fuel oil thinly over the gasket and hand-tighten the cartridge into position.
- Vent any air.

Flushing Out Radiator and Replacing Coolant

- Open both cocks located at the crankcase side and at the lower part of the radiator and drain coolant. Open the radiator cap while draining. Remove the overflow tank and drain.
- Check hoses for softening and kinks. Check clamps for signs of leakage.
- Flush the radiator by running clean tap water through radiator until signs of rust and dirt are removed. **DO NOT** clean radiator core with any objects, such as a screwdriver.
- Tighten both cocks and replace the overflow tank.
- Replace with coolant (see page 30, Table 5 for mixture).
- Close radiator cap tightly.

CAUTION :

Allow engine to cool when flushing out radiator. Flushing the radiator while hot will damage radiator.

Generator Storage

For storage of the generator for over 30 days, the following is required:

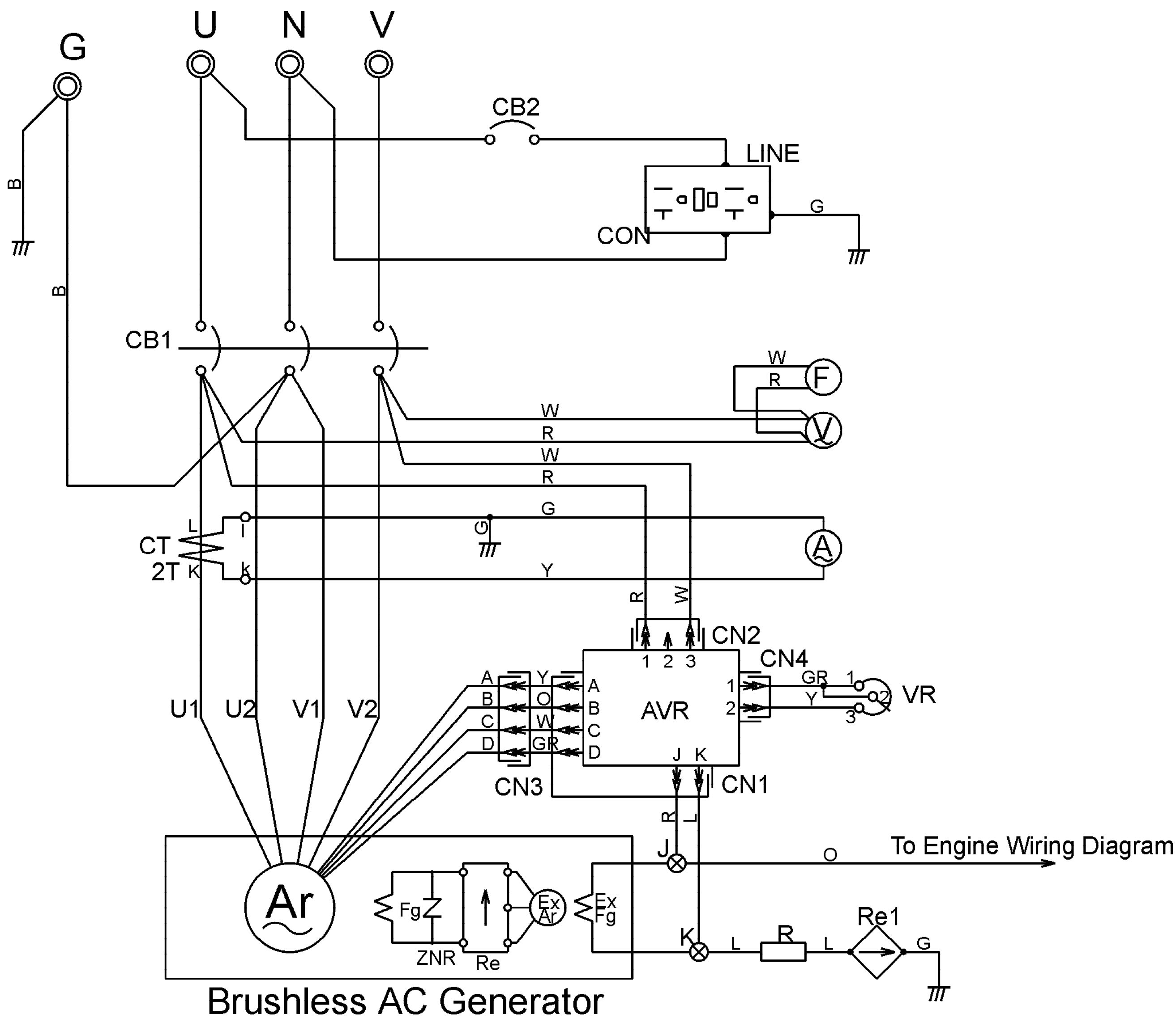
- Fill the fuel tank completely.
- Completely drain the oil from the crankcase and refill with fresh oil.
- Clean all external parts of the generator with a cloth.
- Cover the generating set and store in a clean, dry place.

INSPECTION / MAINTENANCE		10 Hrs DAILY	250 Hrs	500 Hrs	1000 Hrs
ENGINE	Check Engine Fluid Levels	X			
	Check Air Cleaner	X			
	Check Battery Acid Level	X			
	Check Fan Belt Condition	X			
	Check for Leaks	X			
	Check for Loosening of Parts	X			
	Replace Engine Oil and Filter *1		X		
	Clean Air Filter		X		
	Drain Bottom of Fuel Tank		X		
	Clean Unit, Inside and Outside		X		
	Change Fuel Filter *2			X	
	Clean Radiator and Check Coolant Protection Level			X	
	Replace Air Filter Element				X
	Change Corrosion Resistor				X
	Check all Hoses and Clamps				X
	Clean Inside of Fuel Tank				X
GENERATOR	Measure Insulation Resistance Over 3M ohms		X		

*1 Replace engine oil anf filter at 100 hours, first time only.

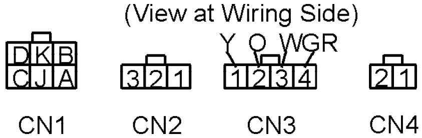
*2 Replace fuel filter at 250 Hours, first time only.

DCA-10SPX3 —GENERATOR WIRING DIAGRAM



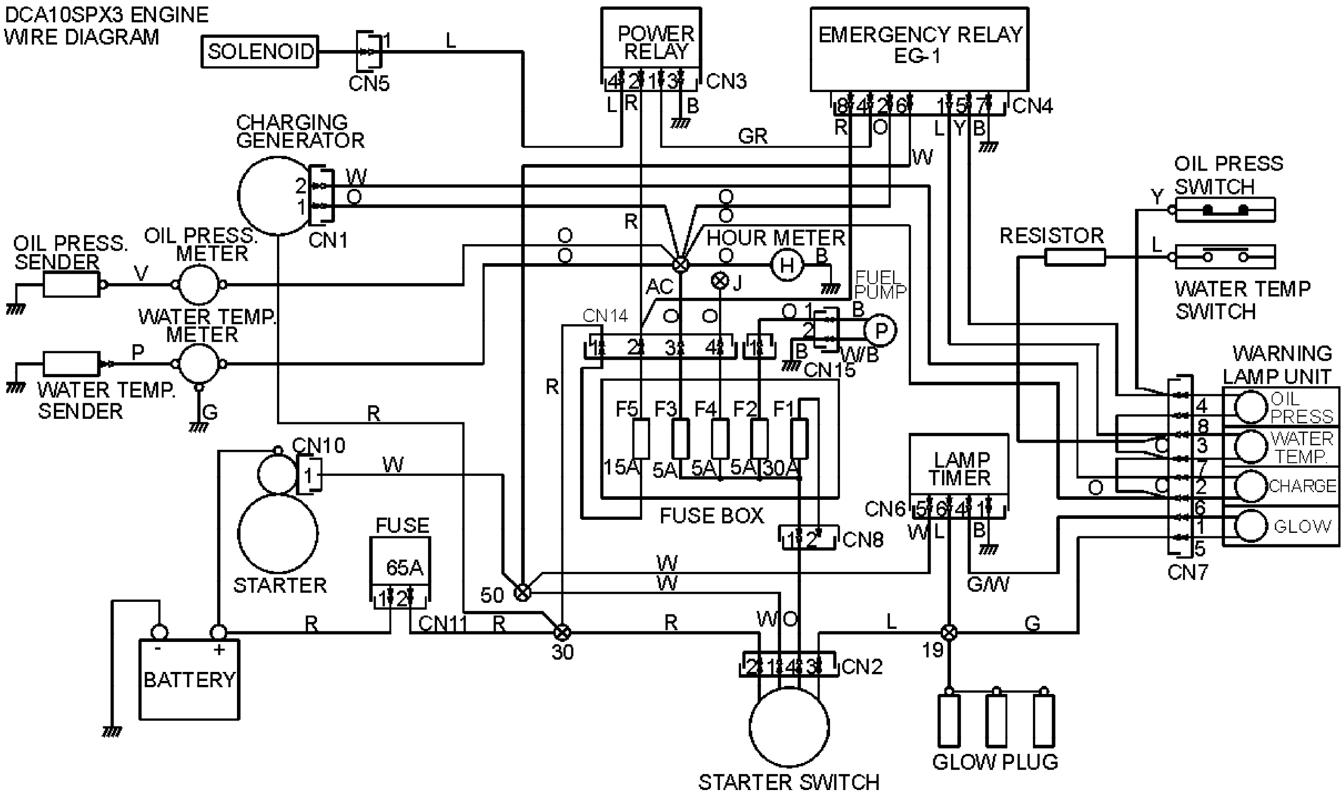
WIRING COLOR CODE			
SYMBOL	COLOR	SYMBOL	COLOR
B	BLACK	R	RED
L	BLUE	W	WHITE
BR	BROWN	Y	YELLOW
G	GREEN	LB	LIGHT BLUE
GR	GRAY	LG	LIGHT GREEN
V	VIOLET	O	ORANGE
P	PINK		

CONNECTOR
(View at Wiring Side)

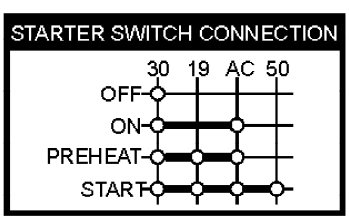


SYMBOL	PARTS NAME
V	AC Voltage Meter
A	AC Ammeter
F	Frequency Meter
CB1,2	Circuit Breaker
CON	Output Receptacle
CT	Current Transformer Ammeter
AVR	Automatic Voltage Regulator
VR	Voltage Regulator
R	Resistor
Re1	Rectifier
⊗ J,K	Combination Terminal
U,N,V	Output Terminal
⊙ G	Ground Terminal

DCA-10SPX3 —ENGINE WIRING DIAGRAM

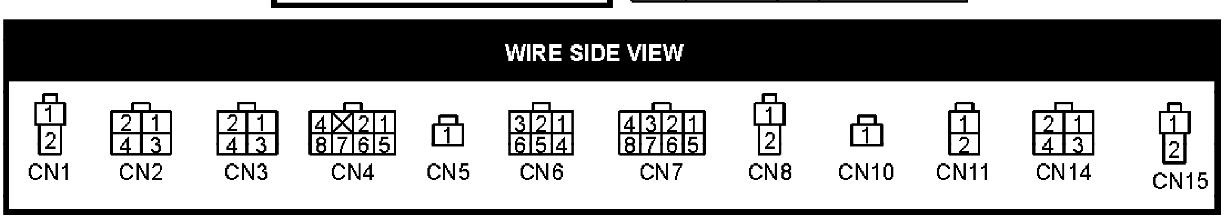






COLOR CODE TABLE

CODE/ WIRE COLOR			
B	BLACK	R	RED
L	BLUE	W	WHITE
BR	BROWN	Y	YELLOW
G	GREEN	LB	LIGHT BLUE
GR	GRAY	LG	LIGHT GREEN
V	VIOLET	O	ORAGNE
P	PINK		



DCA-10SPX3 — TROUBLESHOOTING (ENGINE)

Practically all breakdowns can be prevented by proper handling and maintenance inspections, but in the event of a breakdown, please take a remedial action following the diagnosis based on the Engine Troubleshooting (Table 11) information shown below and on the proceeding page. If the problem cannot be remedied, consult our company's business office or service plant.

TABLE 11. ENGINE TROUBLESHOOTING

SYMPTOM	POSSIBLE PROBLEM	SOLUTION
Engine does not start.	No fuel?	Replenish fuel.
	Air in the fuel system?	Bleed system.
	Water in the fuel system?	Remove water from fuel tank.
	Fuel pipe clogged?	Clean fuel pipe.
	Fuel filter clogged?	Clean or change fuel filter.
	Excessively high viscosity of fuel or engine oil at low temperature?	Use the specified fuel or engine oil.
	Fuel with low cetane number?	Use the specified fuel.
	Fuel leak due to loose injection pipe retaining nut?	Tighten nut.
	Incorrect injection timing?	Adjust.
	Fuel cam shaft worn?	Replace.
	Injection nozzle clogged?	Clean injection nozzle.
	Injection pump malfunctioning?	Repair or replace.
	Seizure of crankshaft, camshaft, piston, cylinder liner or bearing?	Repair or replace.
	Compression leak from cylinder?	Replace head gasket, tighten cylinder head bolt, glow plug and nozzle holder.
	Improper valve timing?	Correct or replace timing gear.
	Piston ring and liner worn?	Replace.
	Excessive valve clearance?	Adjust.
Starter does not run.	Starter malfunctioning?	Repair or replace.
	Wiring disconnected?	Connect wiring.

DCA-10SPX3 — TROUBLESHOOTING (ENGINE)

TABLE 11. ENGINE TROUBLESHOOTING (CONTINUED)

SYMPTOM	POSSIBLE PROBLEM	SOLUTION
Engine revolution is not smooth.	Fuel filter clogged or dirty?	Clean or change.
	Air cleaner clogged?	Clean or change.
	Fuel leak due to loose injection pipe retaining nut?	Tighten nut.
	Injection pump malfunctioning?	Repair or replace.
	Incorrect nozzle opening pressure?	Adjust.
	Injection nozzle stuck or clogged?	Repair or replace.
	Fuel over flow pipe clogged?	Clean.
	Governor malfunctioning?	Repair.
Either white or blue exhaust gas is observed.	Excessive engine oil?	Reduce to the specified level.
	Piston ring and liner worn or stuck?	Repair or replace.
	Incorrect injection timing?	Adjust.
	Deficient compression?	Adjust top clearance.
Either black or dark gray exhaust gas is observed.	Overload?	Lessen the load.
	Low grade fuel used?	Use the specified fuel.
	Fuel filter clogged?	Clean or change.
	Air cleaner clogged?	Clean or change.
	Deficient nozzle injection?	Repair or replace the nozzle.
Deficient output.	Incorrect injection timing?	Adjust.
	Engine's moving parts seem to be seizing?	Repair or replace.
	Uneven fuel injection?	Repair or replace the injection pump.
	Deficient nozzle injection?	Repair or replace the nozzle.
	Compression leak?	Replace head gasket, tighten cylinder head bolt, glow plug and nozzle holder.

DCA-10SPX3 — TROUBLESHOOTING (GENERATOR/ENGINE)

Practically all breakdowns can be prevented by proper handling and maintenance inspections, but in the event of a breakdown, please take a remedial action following the diagnosis based on the Generator Troubleshooting (Table 12) information shown below and on the proceeding page. If the problem cannot be remedied, consult our company's business office or service plant.

TABLE 12. ENGINE & GENERATOR TROUBLESHOOTING

SYMPTOM	POSSIBLE PROBLEM	SOLUTION
Engine fails to start and starter does not rotate.	Dead Battery?	Replace Battery.
	Defective Starter Switch?	Replace Switch.
	Defective Starter?	Replace Starter.
	Fuse F5 Burned Out?	Replace Fuse.
Engine fails to start and starter rotates.	Broken Pre-Heat Circuit?`	Check Pre-Heat Circuit.
	No Fuel?	Add Fuel.
	Defective Wiring?	Check Wiring.
Engine starts and engine remains at low speed.	Compression Leak?	Check/repair engine.
	Air in the fuel system?	Repair or Bleed.
	Clogged Fuel Strainer?	Clean or Replace.
	Clogged Air Cleaner?	Clean or Replace.
	Disconnected Wiring?	Check and Repair Wiring.
Engine starts and engine speed rises and no voltage is present in AC power source.	No Voltage Present in AC Power source	Replace Rectifier (RE1).
	Defective Rotor?	Replace Rotor.
	Defective Automatic Voltage Regulator?	Replace AVR.
	Disconnected Wiring?	Check and Repair Wiring.
	Layer Short-Circuit in armature winding?	Replace Armature.
Engine starts and engine speed rises but AC power voltage is too low (or too high) or cannot be used.	Defective Circuit Breaker (Protector)?	Replace Circuit Breaker (Protector).
	Layer Short-Circuit, Broken Wires In Armature Winding?	Repair or Replace Armature.
	Voltage Regulator turned too low?	Adjust Voltage Regulator up.
Engine starts and engine speed rises but battery discharges excessively.	Defective Engine Regulator?	Replace Regulator.
	Defective Wiring?	Repair or Replace Wiring.
Engine starts and engine speed rises and engine seems overloaded.	Defective Alternator?	Repair or Replace Alternator.
	Damaged Alternator Bearing?	Replace Alternator Bearings.

EXPLANATION OF CODE IN REMARKS COLUMN

How to read the marks and remarks used in this parts book.

Items Found In the "Remarks" Column

Serial Numbers-Where indicated, this indicates a serial number range (inclusive) where a particular part is used.

Model Number-Where indicated, this shows that the corresponding part is utilized only with this specific model number or model number variant.

Items Found In the "Items Number" Column

All parts with same symbol in the number column, *, #, +, %, or ■, belong to the same assembly or kit.

Note: If more than one of the same reference number is listed, the last one listed indicates newest (or latest) part available.

NOTE

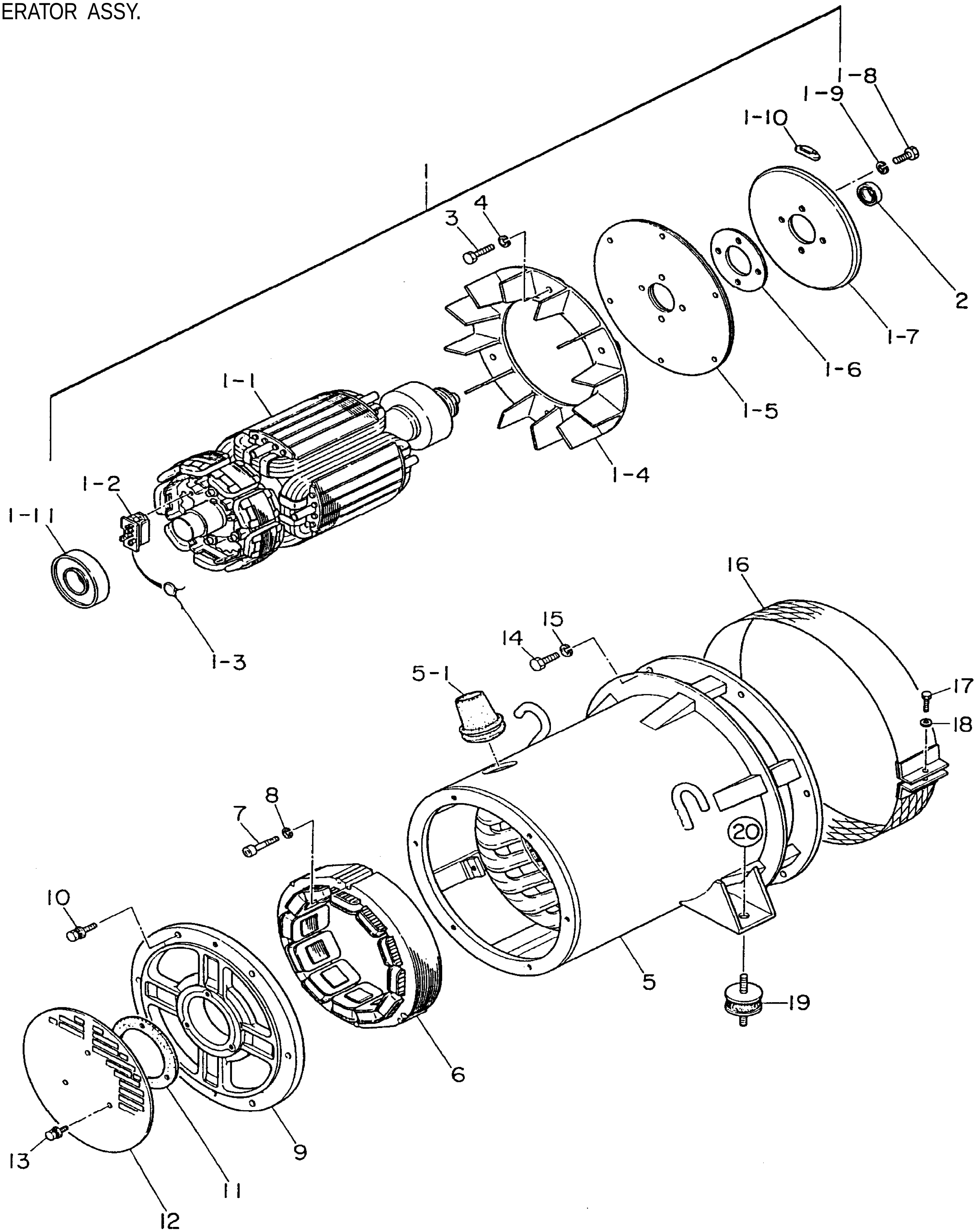
The contents of this parts catalog are subject to change without notice.

DCA-10SPX3 W/KUBOTA D1403 DIESEL ENGINE 1 TO 3 UNITS

QTY.	P/N	DESCRIPTION
1	0601820626	AUTOMATIC VOLTAGE REGULATOR
1	0601807083	MAIN CIRCUIT BREAKER
1	0601812597	RECEPTACLE CIRCUIT BREAKER
1	0601840073	VOLTAGE REGULATOR (RHEOSTAT)
3	1707972062	OIL FILTER
1	0602122050	OIL SENDING UNIT
1	0602123251	WATER TEMPERATURE SENDING UNIT
1	1726697011	FAN BELT
3	0602046372	AIR FILTER
3	1522143172	FUEL FILTER
1	0602100059	STARTER SWITCH
3	3741055150	KEY, STARTER SWITCH

DCA-10SPX3 — GENERATOR ASSY.

GENERATOR ASSY.

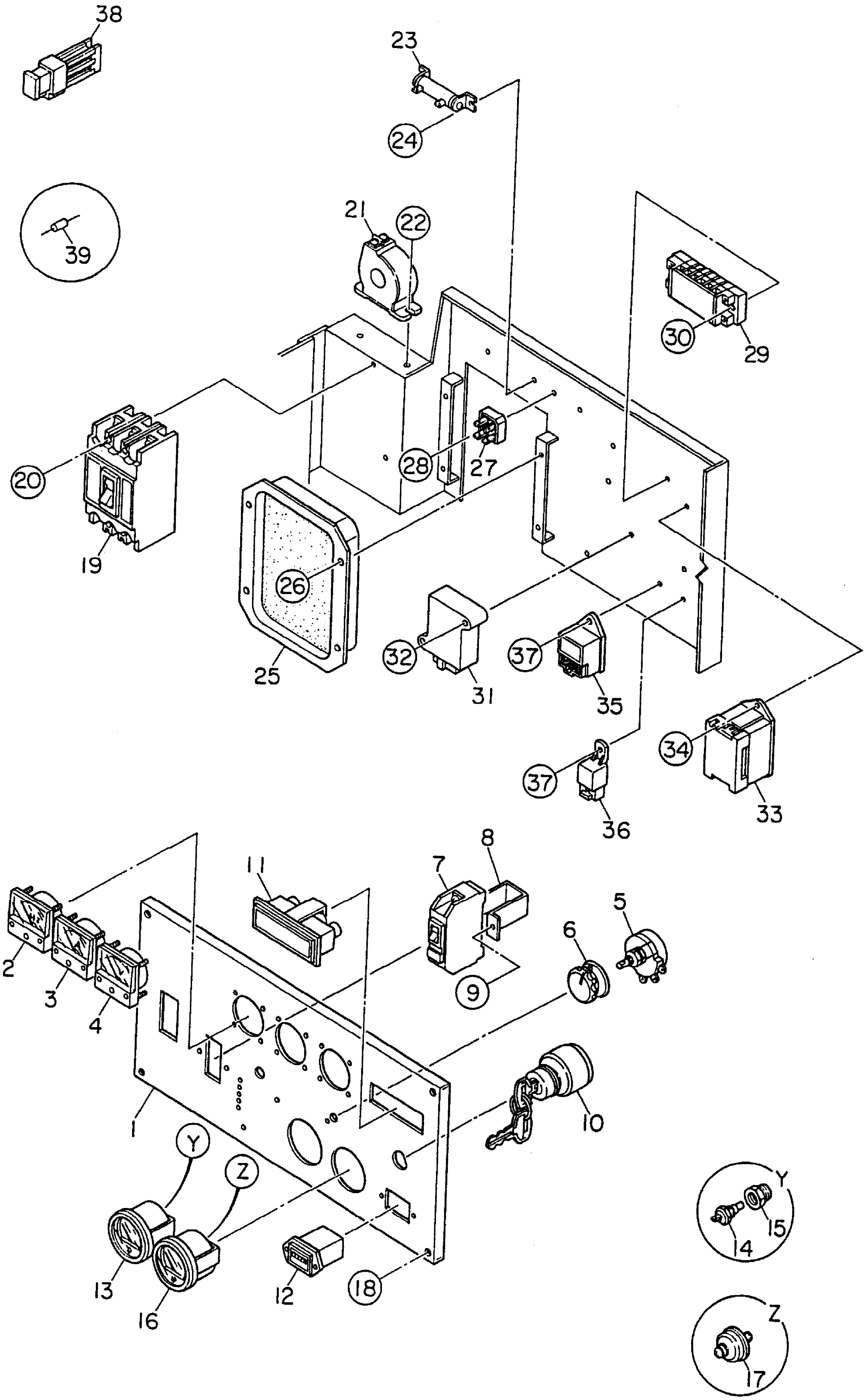


DCA-10SPX3 — GENERATOR ASSY.

NO.	PART NO.	PART NAME	QTY.	REMARKS
1	8321000102	ROTOR ASS'Y	1	
1-1		FIELD ASSY	1	
1-2	7961025004	RECTIFIER	1	
1-3	0601822630	SURGE ABSORBER	1	TNT23G471K
1-4	8001070003	FAN	1	
1-5	8351611004	COUPLING DISK	2	
1-6	8351612004	WASHER, COUPLING HUB	1	
1-7	8351615003	BALANCING PLATE	2	
1-8	0010310025	HEX. HEAD BOLT	4	
1-9	0042610000	LOCK WASHER	4	
1-10	0601000209	BALANCING WEIGHT KIT	1	
1-11	0071906308	BEARING	1	6308DDUC3
2	0070506903	BEARING	1	6903ZZ
3	0012108035	HEX. HEAD BOLT	6	
4	0042508000	LOCK WASHER	6	
5	7561345403	STATOR ASSY.	1	
5-1	0845041904	GROMMET	1	
6	8431350003	FIELD ASSY. EXCITER	1	
7	0016008045	HEX. SOCKET HEAD CAP SCREW	3	
8	0042508000	LOCK WASHER	3	
9	8351315003	END BRACKET	1	
10	0017108035	HEX. HEAD BOLT	6	
11	8351512004	PACKING	1	
12	8351331004	COVER, SUCTION	1	
13	0017106016	HEX. HEAD BOLT	3	
14	0012110030	HEX. HEAD BOLT	3	
15	0042510000	LOCK WASHER	6	
16	8401332004	COVER, FAN	1	
17	0010106030	HEX. HEAD BOLT	1	
18	0041206000	PLAIN WASHER	1	
19	0605000006	RUBBER SUSPENSION	2	
20	0207010000	HEX. NUT	2	

DCA-10SPX3 — CONTROL PANEL ASSY.

CONTROL PANEL ASSY.



DCA-10SPX3 — CONTROL PANEL ASSY.

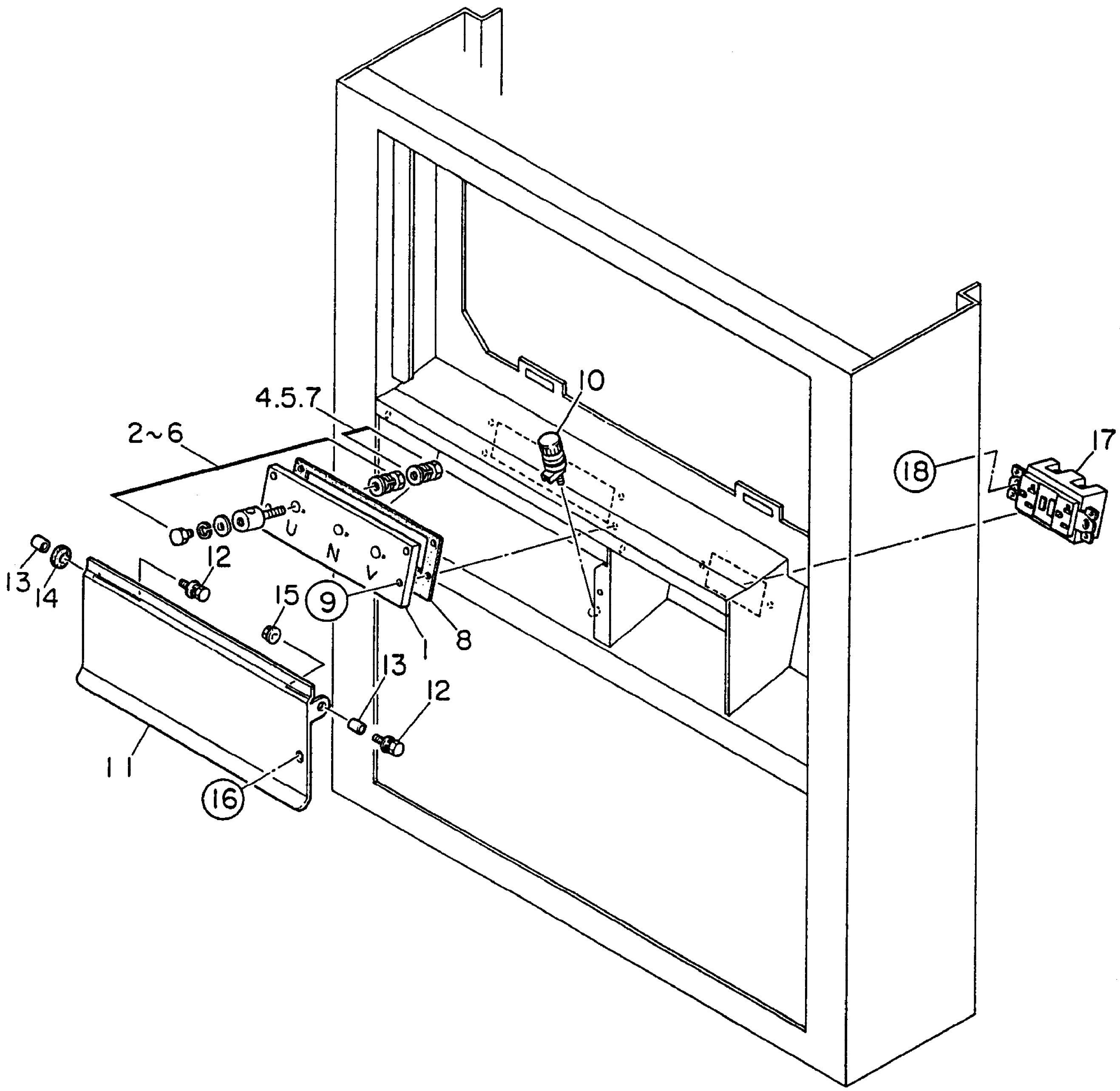
CONTROL PANEL ASSY.

NO.	PART NO.	ITEM	QTY.	REMARKS
1	B0225000003	CONTROL PANEL	1	
2	0601800455	FREQUENCY METER	1	FCF5 240V 45~65Hz
3	0601805745	AC AMMETER	1	ACF5 0~75A
4	0601800281	AC VOLTMETER	1	SCF5 0~150V 0~300
5	0601840073	RHEOSTAT (VOLTAGE REGULATOR)	1	RA20A2SE102BJ 2W 1K OHM
6	0601840121	KNOB	1	
7	0601804715	CIRCUIT BREAKER	1	KM51 20A
8	3011816004	BRACKET, CIRCUIT BREAKER	1	
9	0027104020	MACHINE SCREW	2	
	0207004000	HEX. NUT	2	
10	0602100059	STARTER SWITCH	1	3741059113
11	0601813255	INDICATOR ASSY.	1	BL61160150
	0601810830	BULB	4	
12	0601800682	HOUR METER	1	82014
13	0602123085	WATER TEMPERATURE GAUGE;1005752201	1	S/N4784541 TO S/N5180943
	0602123088	WATER TEMPERATURE GAUGE;1005752780	1	S/N5180944~
14	0602123251	SENDER, WATER TEMPERATURE	1	0715001840
15	0603306840	BUSHING	1	
16	0602122035	OIL PRESSURE GAUGE;1005760300	1	S/N4784541 TO S/N5180943
	0602122038	OIL PRESSURE GAUGE;1005760450	1	S/N5180944~
17	0602122050	SENDER, OIL PRESSURE	1	0716000750
18	0021806030	MACHINE SCREW	4	
19	0601807083	CIRCUIT BREAKER	1	XE50NS 45A
20	0021004060	MACHINE SCREW	2	
	0040004000	LOCK WASHER	2	
	0041204000	PLAIN WASHER	2	
21	0601801123	CURRENT TRANSFORMER, AMMETER	1	COC3 150/5A
22	0027106016	MACHINE SCREW	2	
23	0601842304	RESISTOR	1	GG20W50 OHM
24	0027104010	MACHINE SCREW	2	
25	0601820626	AUTOMATIC VOLTAGE REGULATOR	1	NTA4A2S
26	0017105016	HEX. HEAD BOLT	4	
27	0601820038	RECTIFIER	1	S15VB60
28	0027104020	MACHINE SCREW	1	
29	0601815759	TEMINAL BOARD	1	KT206P
30	0027104025	MACHINE SCREW	2	
31	0602200474	EMERGENCY UNIT	1	1714760602
32	0021005045	MACHINE SCREW	2	
	0040005000	LOCK WASHER	2	
	0041205000	PLAIN WASHER	2	
33	8701899004	FUSE BOX	1	FB6PS
	0601806642	FUSE	4	5A
	0601806644	FUSE	2	15A
	0601806644	FUSE	2	30A
34	0027105016	MACHINE SCREW	2	
35	0602201273	TIMER	1	1569465992
36	0602202566	RELAY	1	6888153542
37	0017105016	HEX. HEAD BOLT	2	
38	0601806640	FUSE	1	65A
39	0601842389	RESISTOR	1	8.2 OHM 1/2W

Full View

DCA-10SPX3 — OUTPUT TERMINAL ASSY.

OUTPUT TERMINAL ASSY.



DCA-10SPX3 — OUTPUT TERMINAL ASSY.

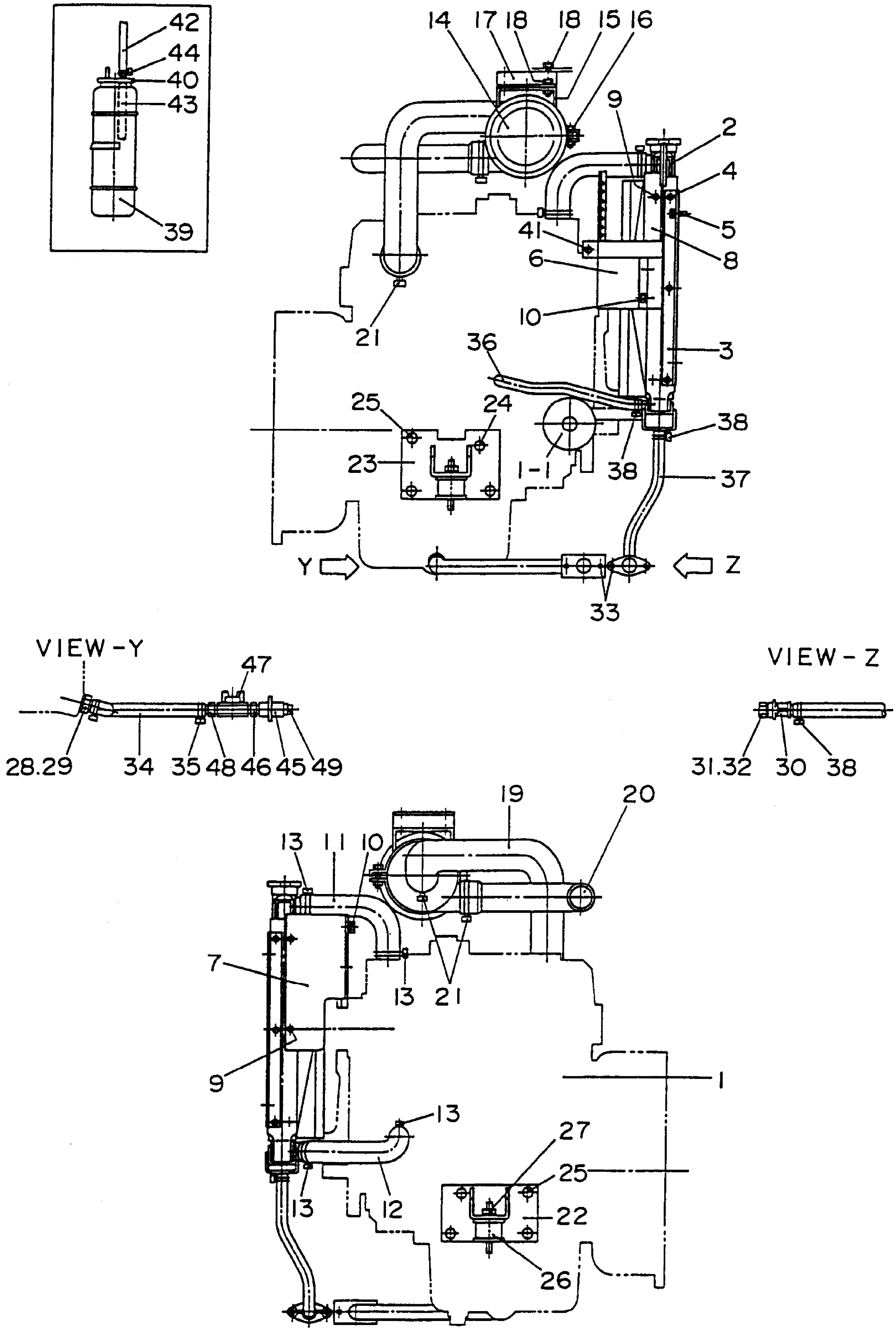
OUTPUT TERMINAL ASSY.

Full View

NO.	PART NO.	PART NAME	QTY.	REMARKS
1	7561860104	SET BOARD, OUTPUT TERMINAL	1	
2	1621849004	OUTPUT TERMINAL	3	
3	0019008020	HEX. HEAD BOLT	3	
4	0040008000	LOCK WASHER	9	
5	0041408000	PLAIN WASHER	9	
6	0039508000	HEX. NUT	3	
7	0030008000	HEX. NUT	3	
8	7831860104	RUBBER SEAL	1	
9	0017105025	HEX. HEAD BOLT	4	
10	0601815109	GROUND TERMINAL	1	
11	7561861003	COVER, OUTPUT TERMINAL	1	
	7561866104	RUBBER SHEET	1	
12	0017106020	HEX. HEAD BOLT	2	
13	0821800014	COLLAR	2	
14	0805088004	STAY RUBBER	1	
15	0207006000	HEX. NUT	1	
16	0017106016	HEX. HEAD BOLT	1	
17	0601812597	RECEPTACLE, AUX. PAOWER	1	5-20R 125V 20A
18	0027104016	MACHINE SCREW	2	
	0207004000	HEX. NUT	2	

DCA-10SPX3 — ENGINE & RADIATOR ASSY.

ENGINE & RADIATOR ASSY.



DCA-10SPX3 — ENGINE & RADIATOR ASSY.

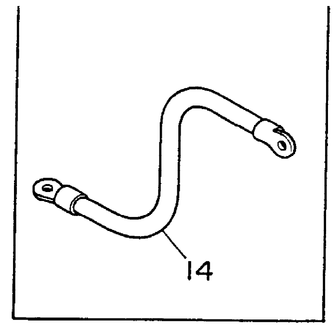
Full View

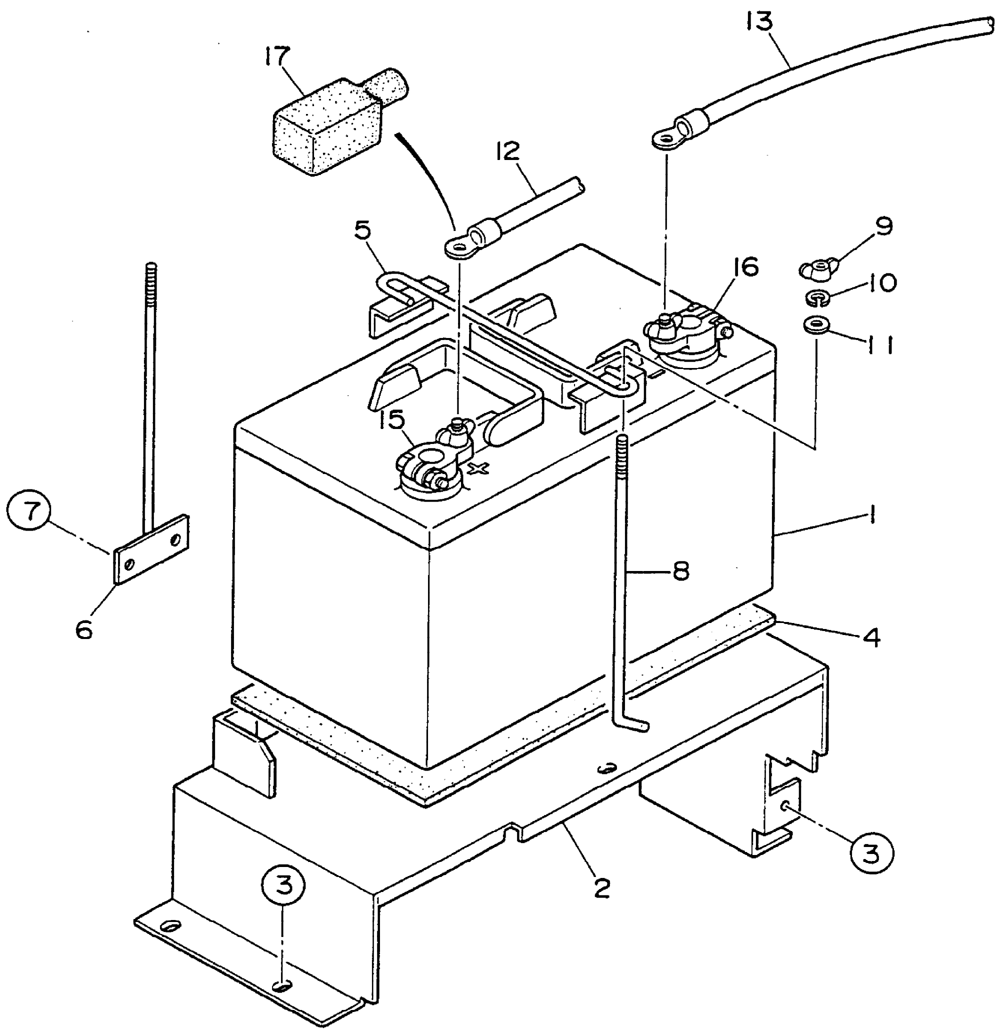
ENGINE AND RADIATOR ASSY.

NO.	PART NO.	PART NAME	QTY.	REMARKS
1	7560150404	ENGINE	1	KUBOTA D1403
1-1	0602041173	CARTRIDGE,OIL FILTER	1	1732132432
2	0602011974	RADIATOR	1	1559672062
3	7562012004	BRACKET. RADIATOR	2	
4	0017108020	HEX. HEAD BOLT	6	
5	0017106016	HEX. HEAD BOLT	6	
6	8325127113	FAN GUARD	1	
7	8325127504	BRACKET, FAN GUARD	1	
8	8325127605	BRACKET, FAN GUARD	1	
9	0017106010	HEX. HEAD BOLT	4	
10	0017106016	HEX. HEAD BOLT	4	
11	0602013975	RADIATOR HOSE	1	1706372941
12	0602014475	RADIATOR HOSE	1	1546172851
13	0602014372	HOSE BAND	4	1510872873
14	0602046273	AIR CLEANER	1	1707611011
	0602046372	ELEMENT, AIR CLEANER	1	1540111081
15	0602040572	BAND, AIR CLEANER	1	3426013963
16	0017108030	HEX. HEAD BOLT	2	
17	8322031004	BRACKET, AIR CLEANER	1	
18	0017108020	HEX. HEAD BOLT	6	
19	8322036103	HOSE,AIR CLEANER	1	
20	8432036103	HOSE, AIR CLEANER	1	
21	0605515001	HOSE BAND	3	
22	8325112114	ENGINE FOOT	1	
23	8325112014	ENGINE FOOT	1	
24	0012410025	HEX. HEAD BOLT	1	
25	0012412025	HEX. HEAD BOLT	7	
26	7605419004	RUBBER SUSPENSION	2	
27	0207010000	HEX. NUT	2	
28	1502025004	DRAIN JOINT	1	
31	0802011104	PLUG	1	
32	0150000018	O RING	1	
33	0017106016	HEX. HEAD BOLT	4	
34	0192200380	DRAIN HOSE	1	
35	0605515003	HOSE BAND	2	
36	0602014476	HOSE	1	1546173341
37	0602014661	DRAIN HOSE	1	1718273341
38	0605515014	HOSE BAND	4	
39	0802081403	RESERVE TANK	1	
40	0802081104	CAP, RESERVE TANK	1	
41	0017106035	HEX. HEAD BOLT	1	
42	0805096804	HOSE	1	
43	7222016304	HOSE	1	
44	0605515094	HOSE BAND	3	
45	B0322300004	DRAIN JOINT	1	
46	0131506000	NIPPLE	1	
47	0603325011	VALVE	1	BSS1/2
48	0602022738	HOSE JOINT	1	
49	0132006000	PLUG	1	

DCA-10SPX3 — BATTERY ASSY.

BATTERY ASSY.





DCA-10SPX3 — BATTERY ASSY.

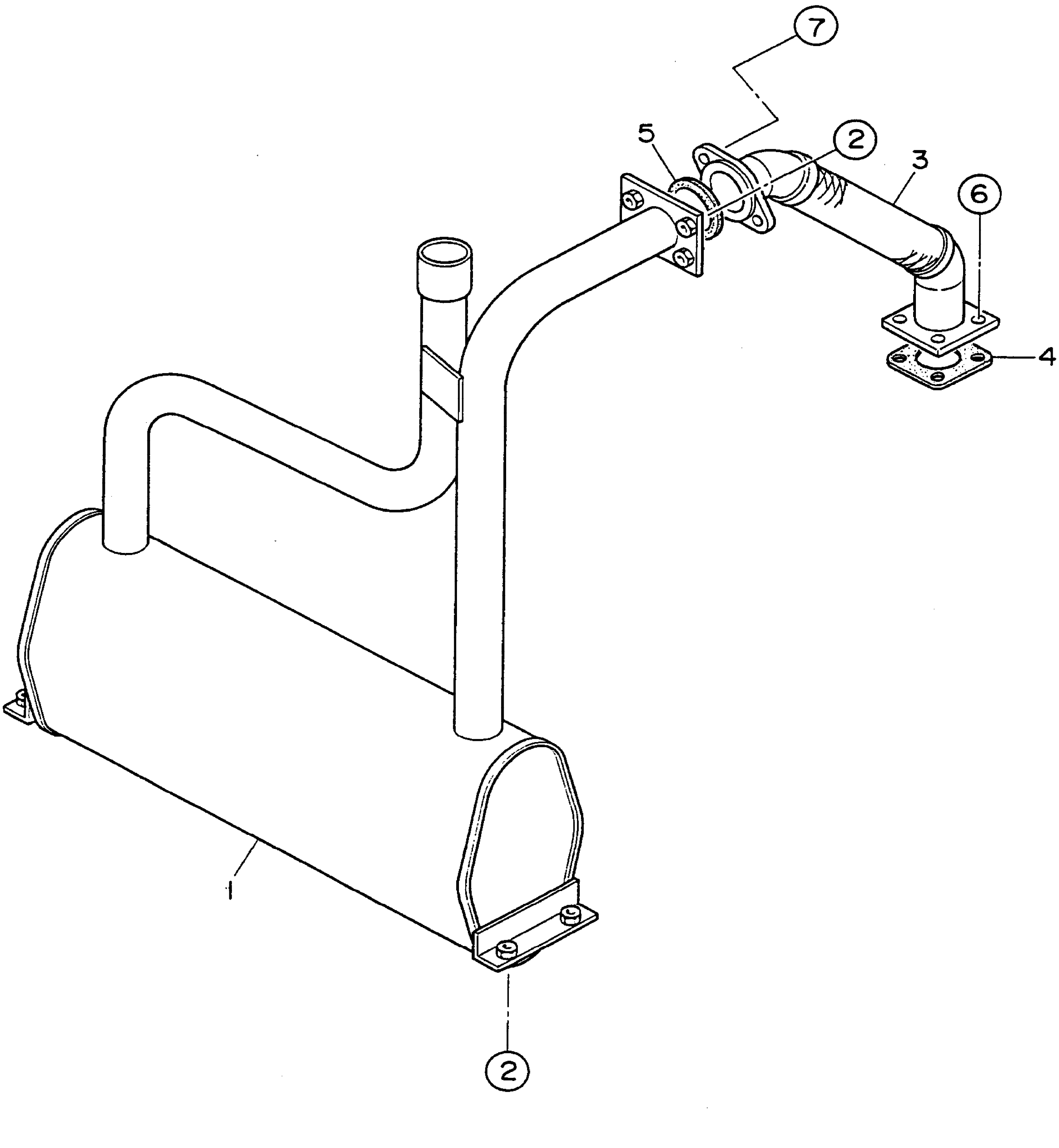
BATTERY ASSY.

Full View

NO.	PART NO.	PART NAME	QTY.	REMARKS
1	0165306531	BATTERY	1	65D31R
2	8432254023	BATTERY FRAME	1	
	8435976004	LINING	1	
3	0017106016	HEX. HEAD BOLT	5	
4	7612251004	BATTERY SHEET	1	
5	8432255024	BATTERY BAND	1	
6	8432256024	BATTERY BOLT	1	
7	0017106016	HEX. HEAD BOLT	2	
8	8432256104	BATTERY BOLT	1	
9	0037806000	WING NUT	2	
10	0040006000	LOCK WASHER	2	
11	0041206000	PLAIN WASHER	2	
12		BATTERY CABLE	1	MAKE LOCALLY
13		BATTERY CABLE	1	MAKE LOCALLY
14		EARTH CABLE	1	MAKE LOCALLY
15	0602220310	TERMINAL ASSY.	1	
16	0602220311	TERMINAL ASSY	1	
17	0602220600	TERMINAL CAP	1	

DCA-10SPX3 — MUFFLER ASSY.

MUFFLER ASSY.



DCA-10SPX3 — MUFFLER ASSY.

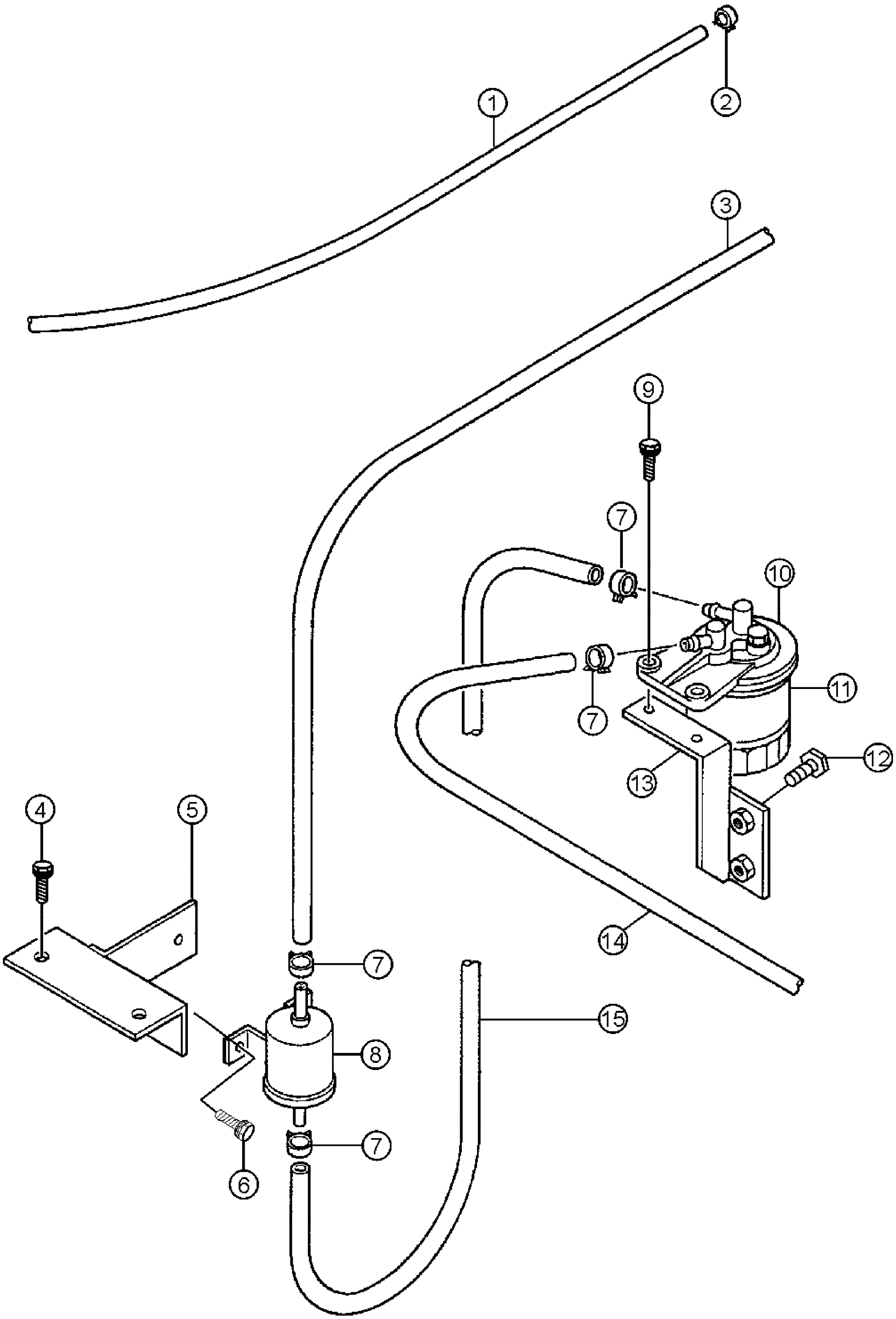
Full View

MUFFLER ASSY.

NO.	PART NO.	PART NAME	QTY.	REMARKS
1	8342311003	MUFFLER	1	
2	0017108020	HEX HEAD BOLT	6	
3	8342350103	EXHAUST PIPE	1	
4	0602320150	GASKET	1	1547112231
5	1502336004	GASKET	1	
6	020108060	HEX NUT	4	
7	011208035	HEX HEAD BOLT	2	

DCA-10SPX3 — FUEL FILTER ASSY.

FUEL FILTER ASSY.



DCA-10SPX3 — FUEL FILTER ASSY.

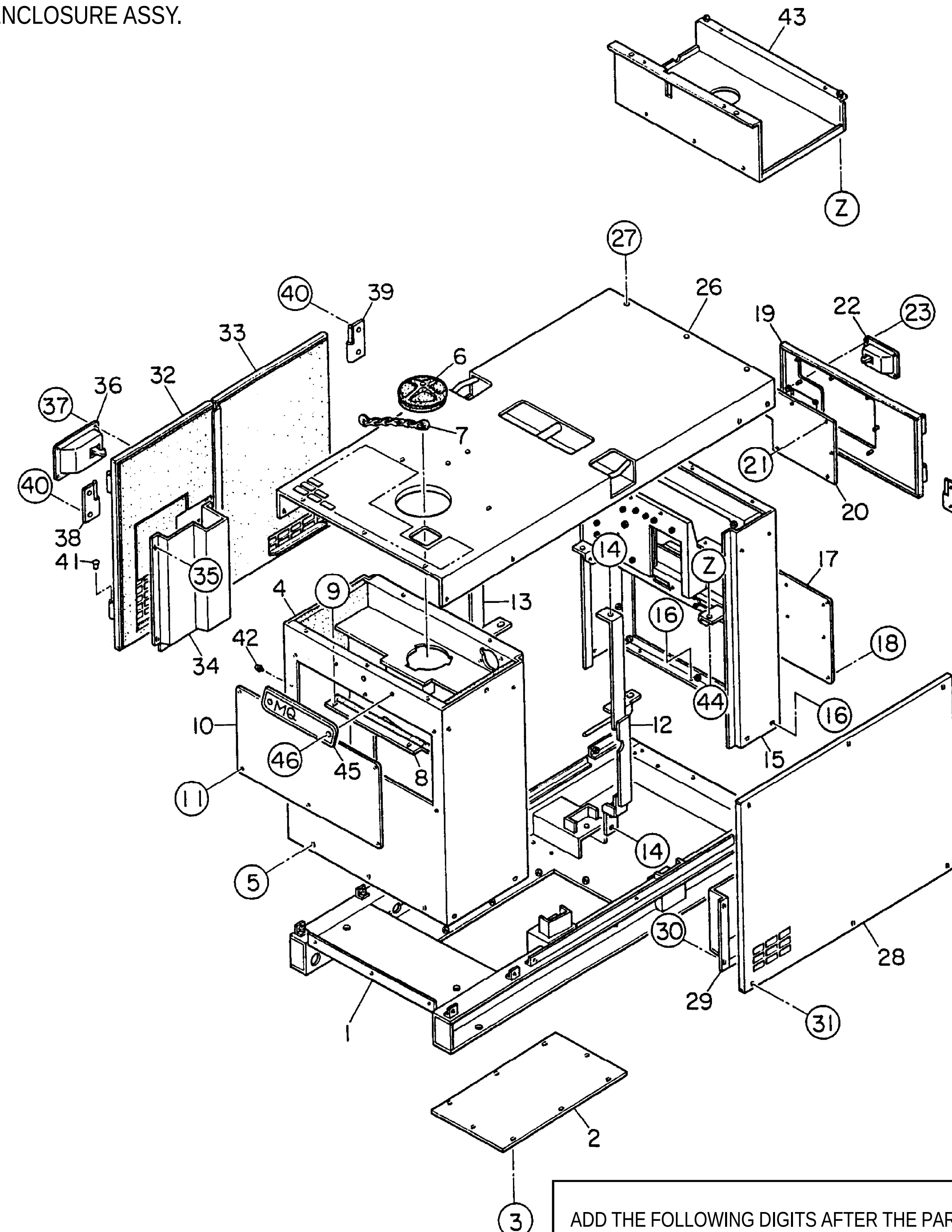
FUEL FILTER ASSY.

Full View

NO.	PART NO.	PART NAME	QTY.	REMARKS
1	1522143016	FUEL FILTER	1	REPLACES 0602042462
	1522143172	CARTRIDGE	1	REPLACES 0602042551
2	7675528004	BRACKET, FUEL FILTER	1	
3	0017108035	HEX. HEAD BOLT	2	
4	0017108025	HEX. HEAD BOLT	2	
5	1747652031	PUMP, FUEL	1	REPLACES 0602023155
6	B0368700004	BRACKET, FUEL PUMP	1	
7	0017106016	HEX.HEAD BOLT	2	
8	0017108020	HEX. HEAD BOLT	2	
9	0966180500	SUCTION HOSE	1	REPLACES 0605513105
10	0966181000	SUCTION HOSE	1	REPLACES 0605513106
11	0966181000	SUCTION HOSE	1	REPLACES 0605513174
12	0966141000	RETURN HOSE	1	REPLACES 0605514016
13	1491142751	HOSE BAND	6	REPLACES 0605515070
14	1497142751	HOSE BAND	2	REPLACES 0605515072

DCA-10SPX3 — ENCLOSURE ASSY.

ENCLOSURE ASSY.



ADD THE FOLLOWING DIGITS AFTER THE PART NUMBER WHEN ORDERING ANY PAINTED PANEL TO INDICATE COLOR OF UNIT IF NOT IN TEAL:

MQW-WHITE
SK-SCARLET/ORANGE

THE SERIAL NUMBER MAY BE REQUIRED.

DCA-10SPX3 — ENCLOSURE ASSY.

ENCLOSURE ASSEMBLY

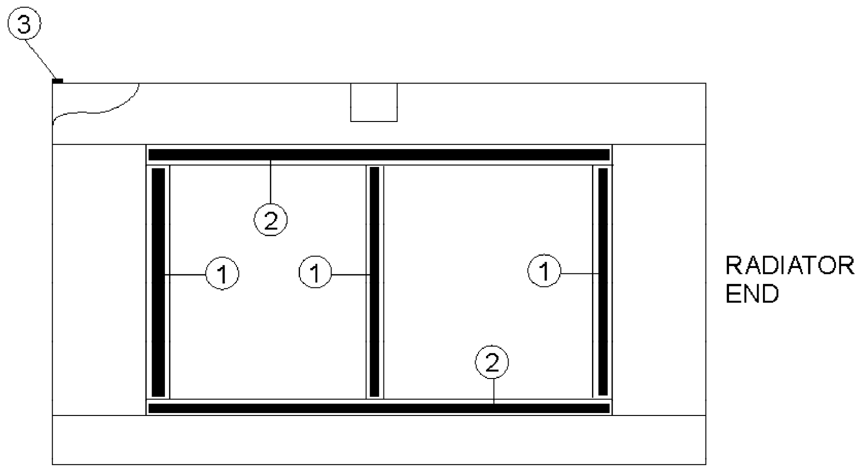
NO.	PART NO.	PART NAME	QTY.	REMARKS
1	7565111403	BASE	1	8325110122
2	8445116114	FLOOR PANEL	1	
3	0017106016	HEX.HEAD BOLT	8	
4	7565121502	FRONT FRAME	1	
	8325921204	LINING	1	
5	0017108020	HEX. HEAD BOLT	7	
6	1625165103	FILLER COVER	1	
7	1625165204	CHAIN	1	
8	8322313003	COVER, MUFFLER	1	
	8345925004	LINING	1	
9	0017108020	HEX. HEAD BOLT	4	
10	8435125004	COVER, FRONT FRAME	1	
	8345923004	LINING	1	
11	0017108020	HEX. HEAD BOLT	6	
12	8345130203	HANGER	1	
13	8435132113	HANGER	1	
14	0017112030	HEX. HEAD BOLT	6	
15	B0445000302	REAR FRAME	7	
16	0017108020	HEX. HEAD BOLT	7	
17	7565144104	COVER, REAR FRAME	1	
18	0017108020	HEX. HEAD BOLT	6	
19	B0445200203	DOOR, REAR FRAME	1	
20	B0445600104	WINDOW PLATE	1	
21	0207006000	HEX.NUT	7	
22	0605010230	DOOR HANDLE	1	
23	0021805012	MACHINE SCREW	4	
24	0810015204	HINGE	2	
	0810015504	WASHER	2	
25	0017106016	HEX.HEAD BOLT	4	
26	B0465000202	ROOF PANEL	1	
	8325961104	LINING	1	
27	0017108020	HEX. HEAD BOLT	16	
28	8325172103	SIDE PANEL	1	
	8325972104	LINING	1	
29	8325173004	DUCT	1	
30	0207006000	HEX. NUT	5	
31	0017108035	HEX. HEAD BOLT	6	
32	8325170203	SIDE DOOR	1	
	832597020	LINING	1	
33	B0445000203	SIDE DOOR	1	
	8345970404	LINING	1	
34	8325171113	DUCT	1	
35	0207006000	HEX. NUT	6	
36	B9114000002	DOOR HANDLE	1	
37	0021806016	MACHINE SCREW	4	
38	0845047204	HINGE	2	
	0845045004	WASHER	2	
39	0845047104	HINGE	2	
	0845045004	WASHER	2	
40	0017108020	HEX. HEAD BOLT	8	
41	0845031504	CAP	4	
42	0601850097	STOPPER	2	
43	8435525003	BRACKET	1	
44	0017108020	HEX. HEAD BOLT	4	
45	0600500090	EMBLEM	1	
46	0021106020	MACHINE SCREW	2	

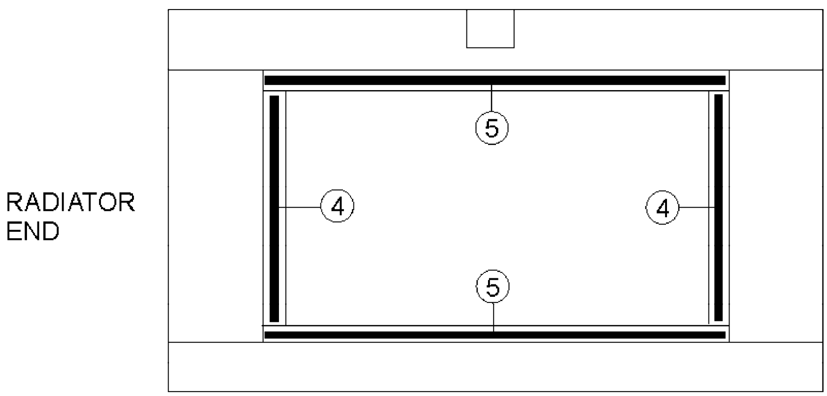
Full View

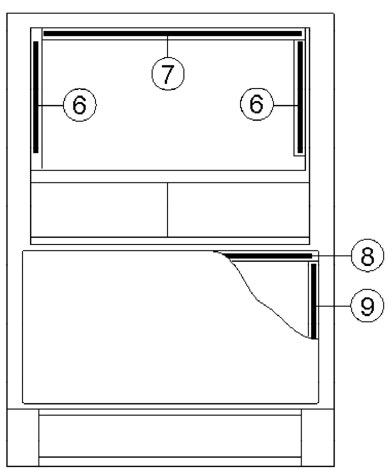
DCA-10SPX3 — ENCLOSURE (RUBBER SEALS) ASSY.

ENCLOSURE (SEALS)ASSY.

RUBBER SEALS







REAR VIEW

DCA-10SPX3 — ENCLOSURE (RUBBER SEALS) ASSY.

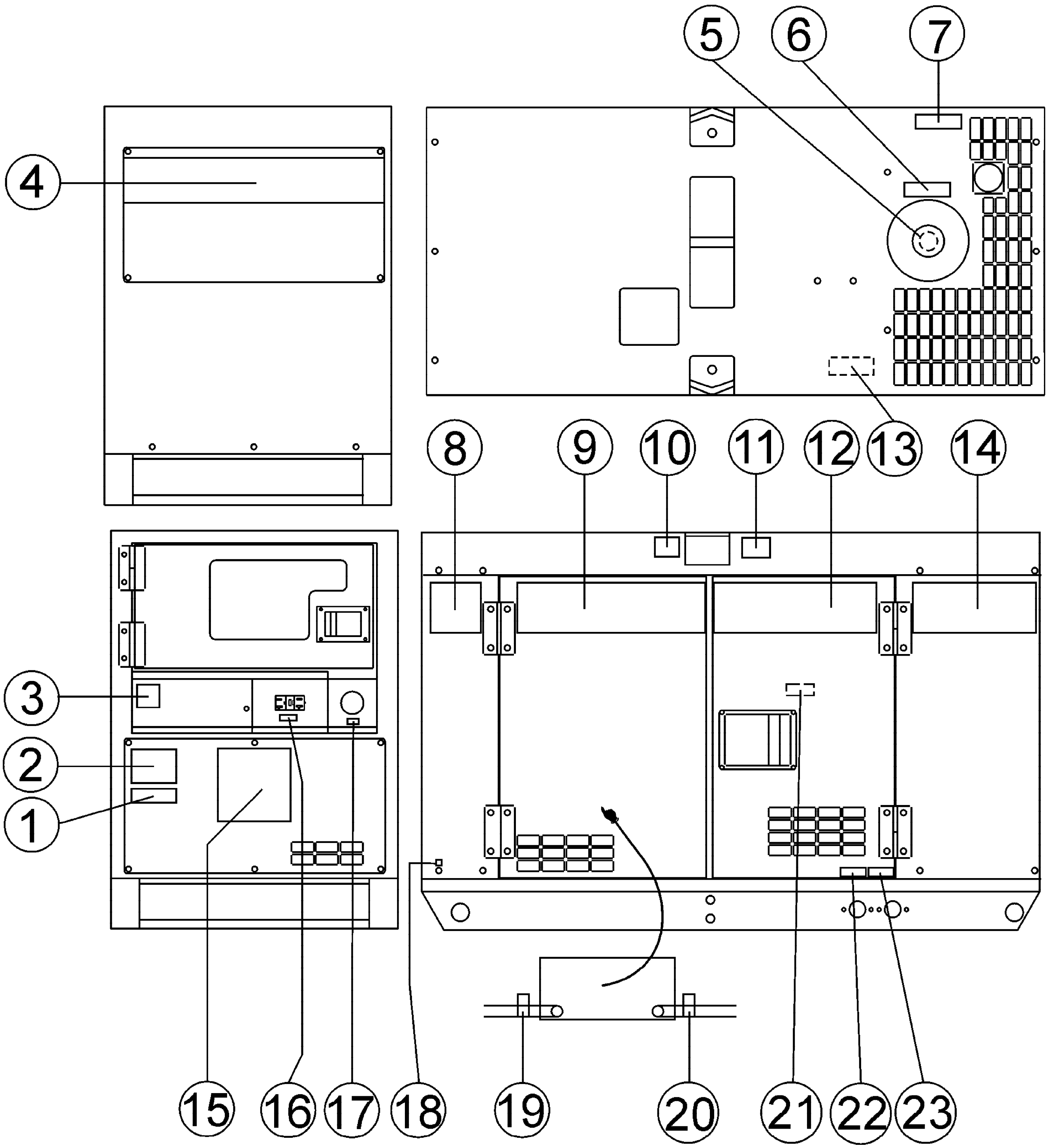
ENCLOSURE (RUBBER SEALS)ASSY.

Full View

NO.	PART NO.	PART NAME	QTY.	REMARKS
1	0229400650	RUBBER SEAL	3	
2	0229400895	RUBBERSEAL	2	
3	0229200650	RUBBER SEAL	1	
4	0220400650	RUBBER SEAL	2	
5	0227600895	RUBBER SEAL	2	
6	0229400265	RUBBER SEAL	2	
7	0229400550	RUBBER SEAL	1	
8	0229200580	RUBBER SEAL	2	
9	0229200245	RUBBER SEAL	2	

DCA-10SPX3 — NAME PLATE AND DECALS

NAME PLATE AND DECALS



DCA-10SPX3 — NAME PLATE AND DECALS

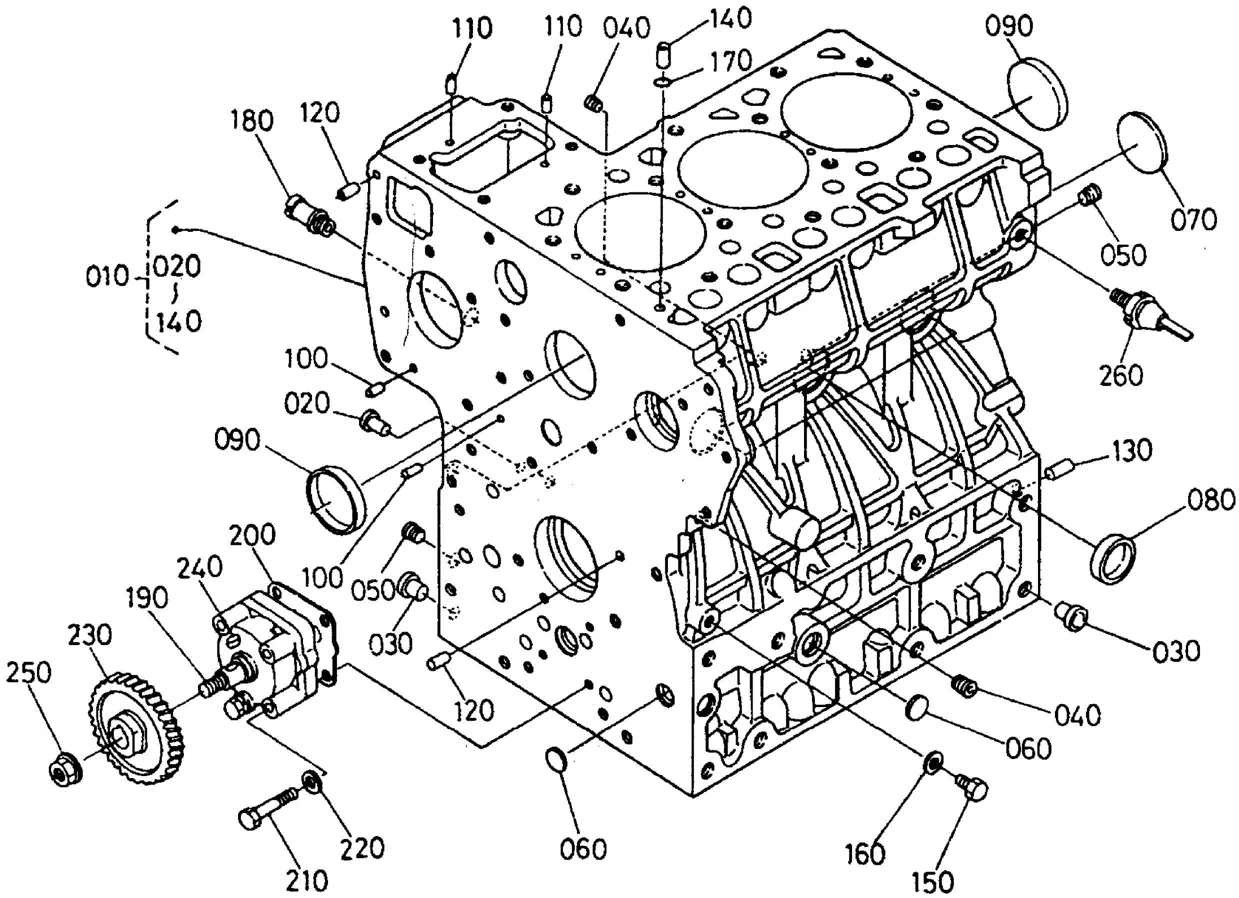
NAME PLATE AND DECALS

Full View

NO.	PART NO.	PART NAME	QTY.	REMARKS
1	0820610404	WARNING! TRANSFER SWITCH	1	
2	6390671104	IMPORTANT "CHECK DAILY"	1	
3	8700611904	DANGER: ELEC.SHOCK HAZARD	1	
4	7670633003	STRIPE; FRONT END	1	
5	1630610304	DANGER: REMOVE ONLY WHEN COOL	1	
6	6360620104	WATER	1	
7	8700611804	WARNING	1	
8	7670633804	15 STRIPE	2	
9	7670633404	STRIPE; DOOR	2	
10	M0000001020Q	DRAIN FUEL PRIOR TO LIFTING	2	
11	1320621504	SUPPORT HOOK	2	
12	7670633504	STRIPE: DOOR WITH HANDLE	2	
13	M9503000103	OIL LEVEL CHECK	1	
14	7670633204	STRIPE; FRONT SIDE	2	
15	0840625902	MQ DECAL	1	
16	0800622704	120V	1	
17	M0000001021Q	60HZ	1	
18	0800628504	GROUND	1	
19	0800689404	+	1	
20	0800689504	-	1	
21	1630610504	DO OPERATE WITH DOORS OPEN	1	
22	6360620204	OIL DRAIN PLUG	1	
23	6360620104	WATER DRAIN PLUG	1	

KUBOTA D1403— CRANKCASE ASSY.

CRANKCASE ASSY.



KUBOTA D1403— CRANKCASE ASSY.

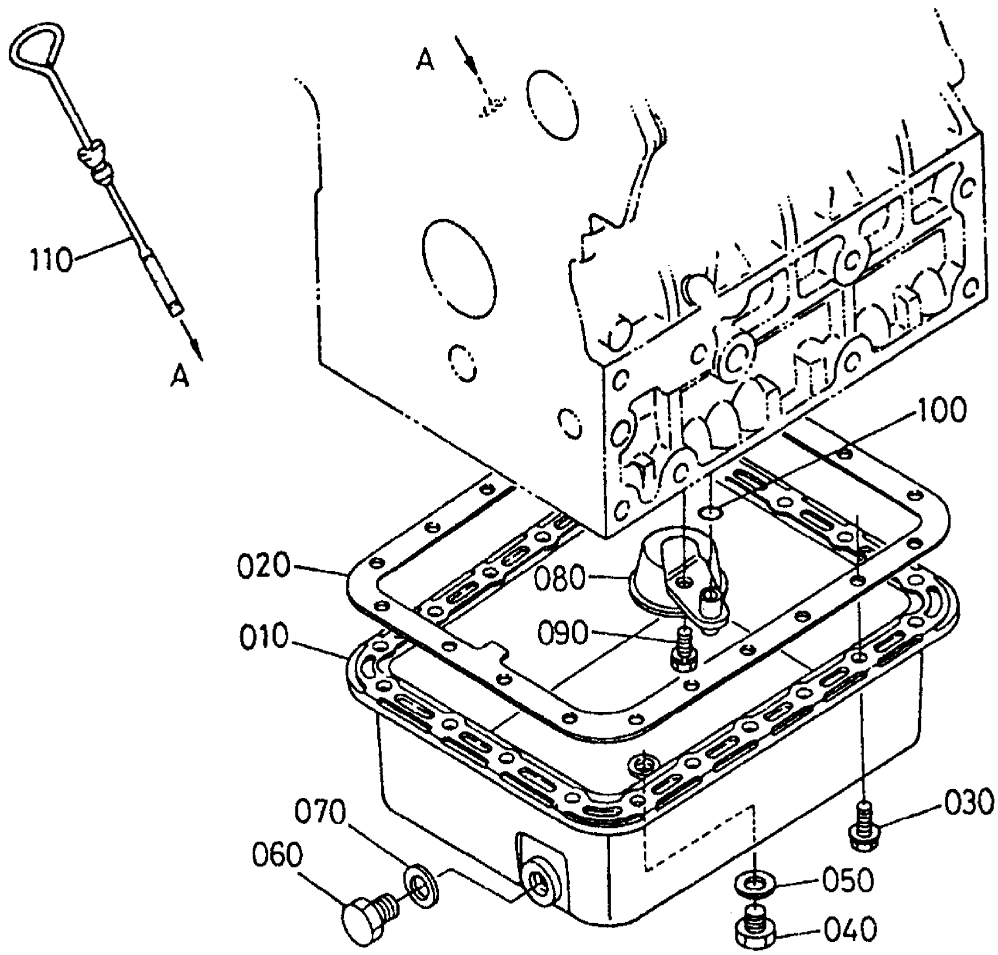
CRANKCASE ASSY.

Full View

NO.	PART NO.	PART NAME	QTY.	REMARKS
010	1641401010	COMP. CRANKCASE	1	INCLUDES ITEMS W/*
020*	3415027580	PLUG	1	
030*	3221027580	PLUG	2	
040*	1552196020	PLUG	5	
050*	1552196030	PLUG	2	
060*	1739196160	PLUG, EXPANSION	3	
070*	0631175045	PLUG, EXPANSION	1	
080*	1522103383	CAP, SEALING	5	REPLACES 1522103380
090*	1522103392	CAP, SEALING	2	REPLACES 1522103390
100*	0501200408	PIN, STRAIGHT	2	
110*	0501200609	PIN, STRAIGHT	2	
120*	0501200612	PIN, STRAIGHT	2	
130*	0501201018	PIN, STRAIGHT	1	
140*	1522133650	PIN, PIPE	1	
150	1522133610	PLUG	1	
160	1502133660	GASKET	1	
170	1522133700	O RING	1	
180	1532173340	PIPE, WATER RETURN	1	
190	1547135010	ASSY. PUMP, OIL	1	
200	1529635150	GASKET, OIL PUMP	1	
210	0105350650	BOLT	4	
220	0451260060	LOCK WASHER	4	
230	1920235660	OIL PUMP DRIVE GEAR	1	
240	0571200410	FEATHER KEY	1	
250	1522135682	FLANGE NUT	1	
260	1584139010	OIL SWITCH	1	

KUBOTA D1403— OIL PAN ASSY.

OIL PAN ASSY.



KUBOTA D1403— OIL PAN ASSY.

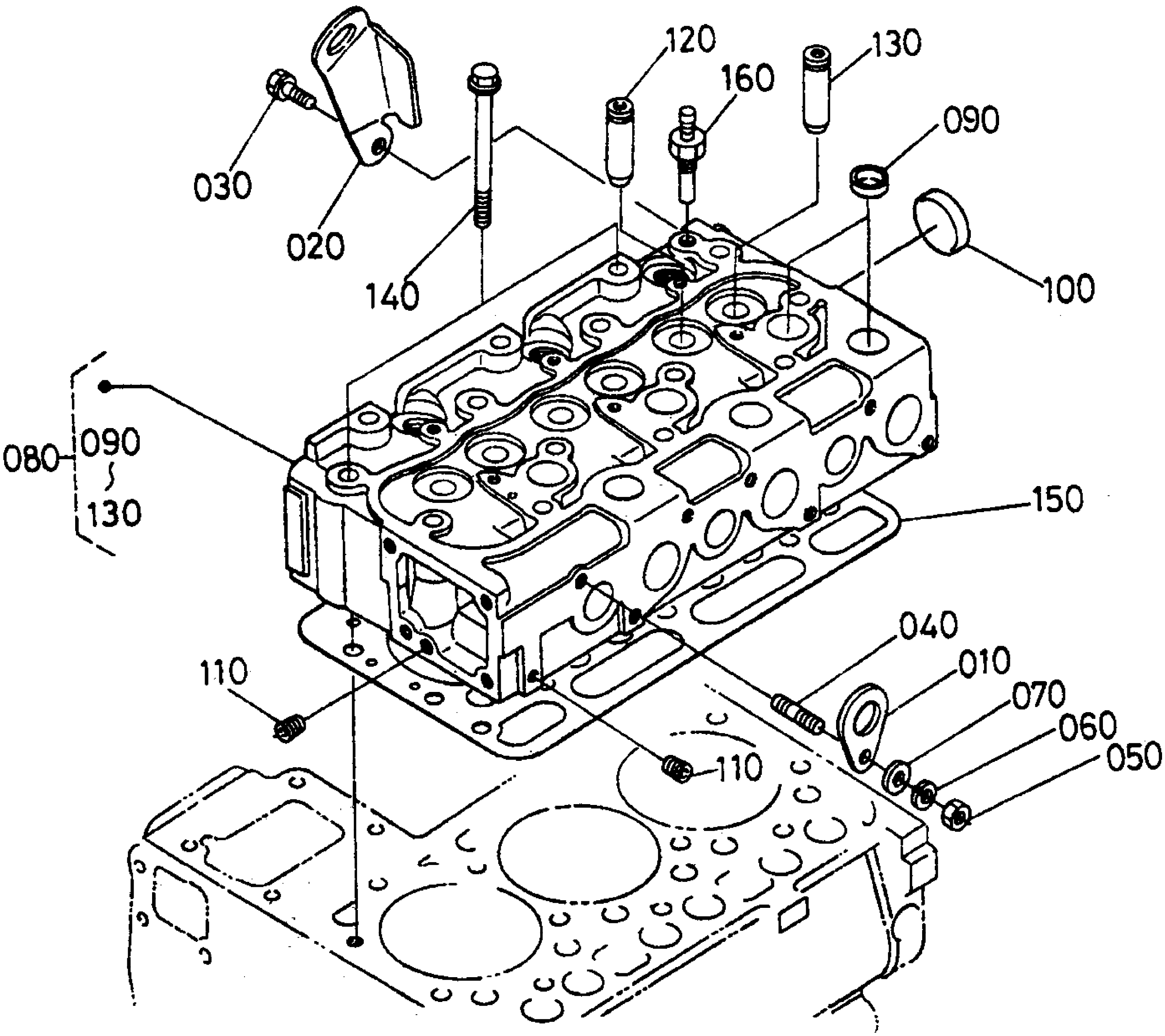
Full View

OIL PAN ASSY.

NO.	PART NO.	PART NAME	QTY.	REMARKS
010	1929901613	OIL PAN	1	
020	1531301620	OIL PAN GASKET	1	
030	1733391010	FLANGE BOLT	20	
040	152133750	PLUG	1	
050	7000065259	GASKET	1	REPLACES 1510933660
060	1595133750	DRAIN PLUG	1	
070	0472400160	GASKET	1	
080	1562832110	OIL FILTER	1	
090	0112360814	BOLT	1	
100	0481100160	O RING	1	
110	1711136410	OIL GAUGE	1	

KUBOTA D1403— CYLINDER HEAD ASSY.

CYLINDER HEAD ASSY.



KUBOTA D1403— CYLINDER HEAD ASSY.

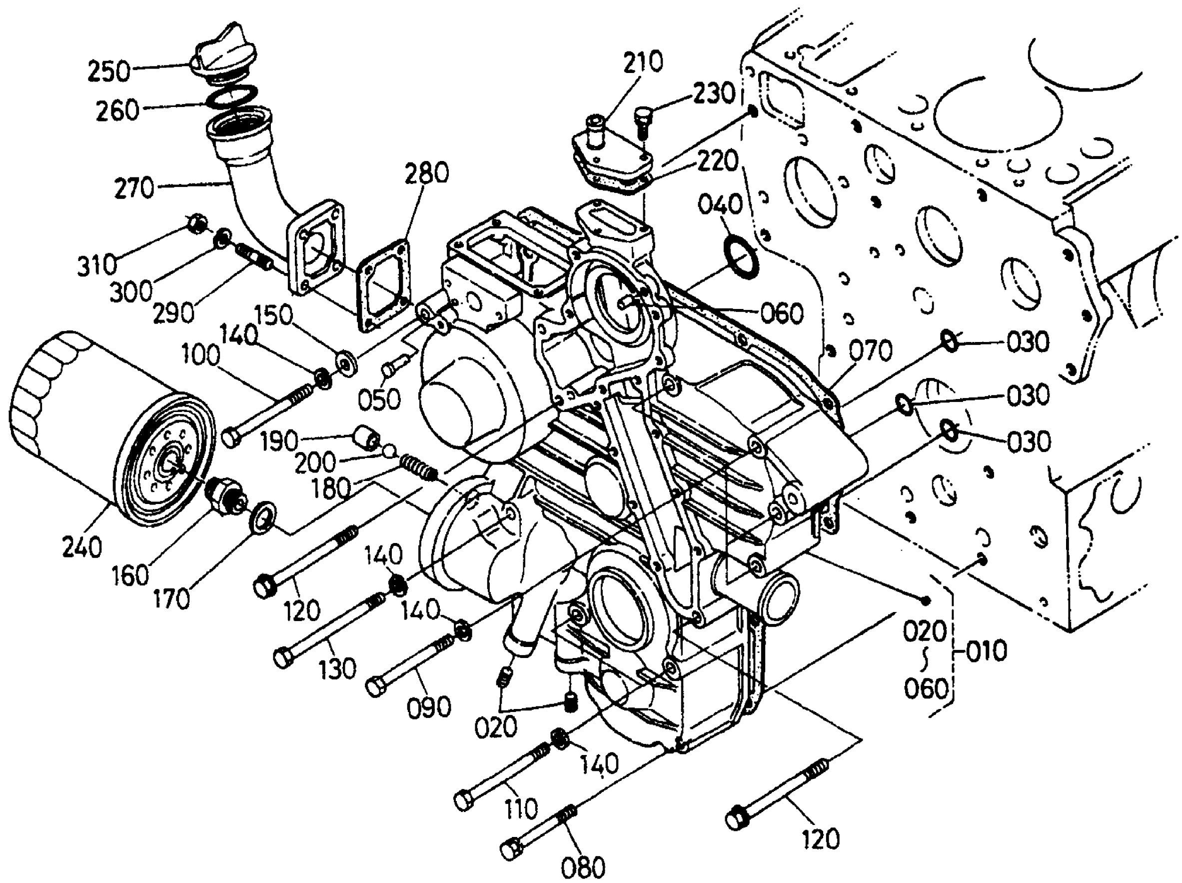
CYLINDER HEAD ASSY.

Full View

NO.	PART NO.	PART NAME	QTY.	REMARKS
010	1522101750	ENGINE HOOK	1	
020	1641501752	ENGINE HOOK	1	
030	0112360816	BOLT	1	
040	1547191530	STUD	1	
050	0215650080	NUT	1	
060	0451260080	LOCK WASHER	1	
070	0401250080	PLAIN WASHER	1	
080	1641403040	COMP. CYLINDER HEAD	1	... INCLUDES ITEMS W/*
090*	1522103370	SEALING CAP	9	
100*	1522103490	SEALING CAP	1	
110*	1526196010	PLUG	2	
120*	1732113580	INLET VALVE GUIDE	3	
130*	1732113560	EXHAUST VALVE GUIDE	3	
140	1901303450	CYLINDER HEAD BOLT	14	
150	1642703310	CYLINDER HEAD GASKET	1	
160	1949883040	THERMOSWITCH ASSY.	1	

KUBOTA D1403— GEAR CASE ASSY.

GEAR CASE ASSY.



KUBOTA D1403— GEAR CASE ASSY.

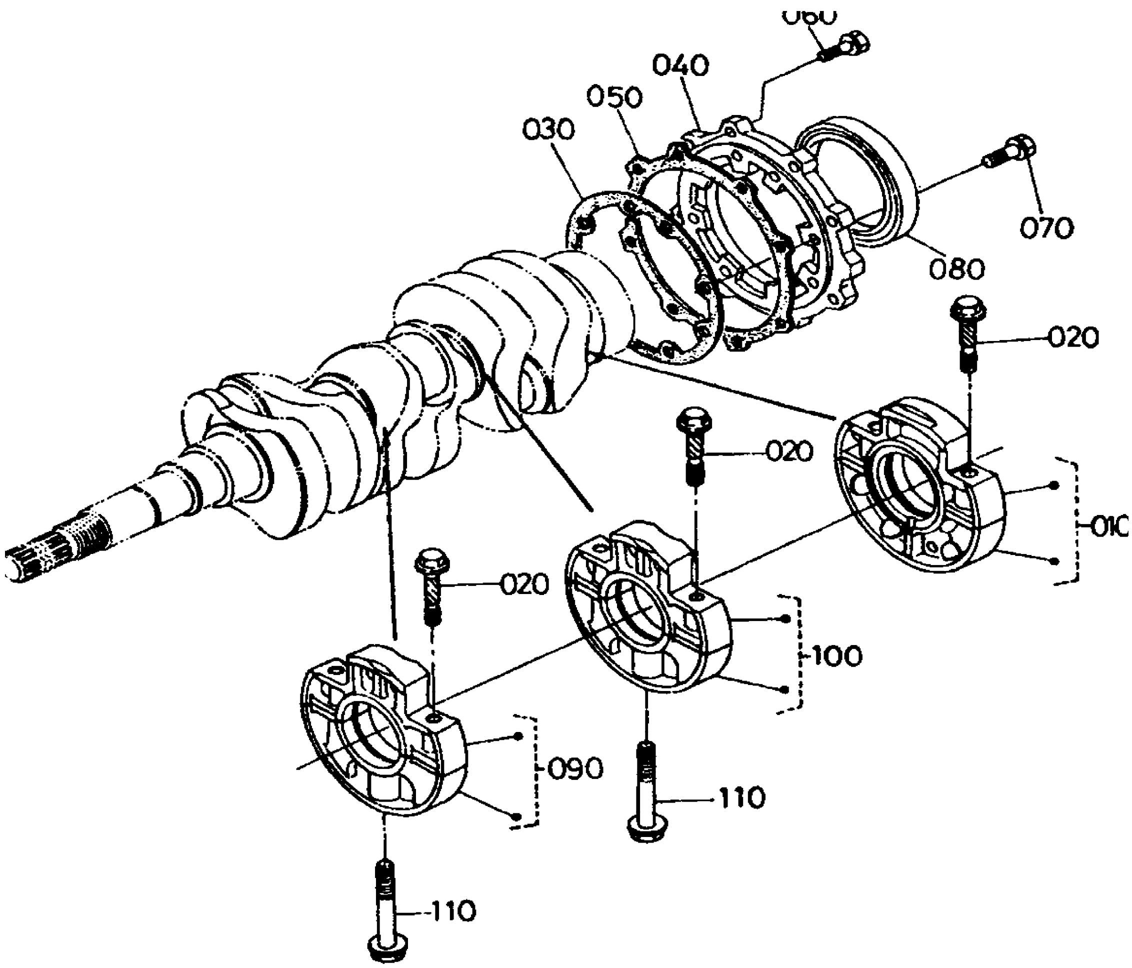
Full View

GEAR CASE ASSY.

NO.	PART NO.	PART NAME	QTY.	REMARKS
010	1718204010	GEAR CASE ASSY.	1	INCLUDES ITEMS W/*
020*	1685196010	PLUG	2	
030*	0481100150	O RING	3	
040*	0481100360	O RING	1	
050*	1981856280	START SPRING PIN	1	
060*	0501200612	STAIGHT PIN	2	
070	1708904130	GEAR CASE GASKET	1	
080	0112350860	BOLT	2	
090	0115350870	BOLT	5	
100	1736791030	BOLT	1	
110	0115350880	BOLT	3	
120	1736791020	BOLT	3	
130	0115350895	BOLT	2	
140	0451260080	LOCK WASHER	10	
150	0401250080	PLAIN WASHER	1	
160	1552132290	PIPE JOINT	1	
170	0401150180	PLAIN WASHER	1	
180	1524136950	SPRING	1	
190	1552136930	VALVE SEAT	1	
200	0771503213	BALL	1	
210	1552173320	WATER RETURN FLANGE	1	
220	1576673330	WATER FLANGE GASKET	1	
230	0102350620	BOLT	3	
240	7000032091	OIL FILTER CARTRIDGE	1	REPLACES 1732132430
250	1585233140	OIL FILLER PLUG	1	
260	0481150300	O RING	1	
270	1718233110	OIL FILLER FLANGE	1	
280	1547254550	GASKET	1	
290	1718291510	STUD	4	
300	0451260060	LOCK WASHER	4	
310	0205650060	NUT	4	

KUBOTA D1403— MAIN BEARING CASE ASSY.

MAIN BEARING CASE ASSY.



KUBOTA D1403 — MAIN BEARING CASE ASSY.

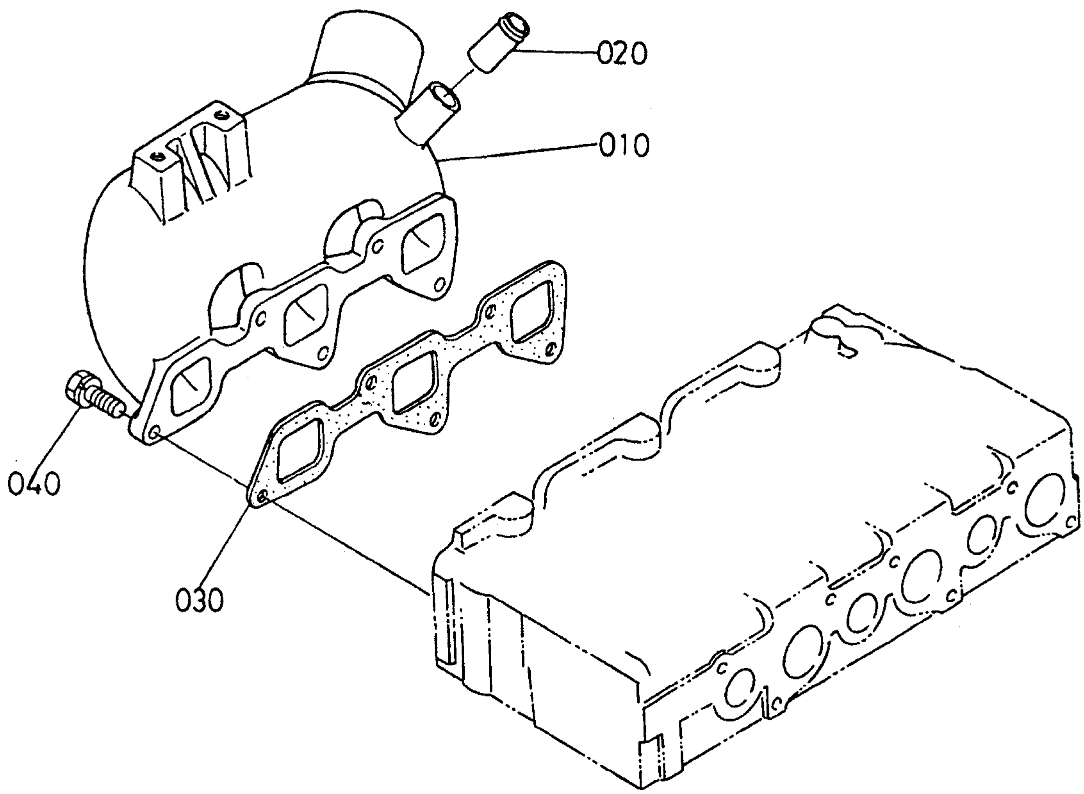
MAIN BEARING CASE ASSY.

Full View

NO.	PART NO.	PART NAME	QTY.	REMARKS
010	1901304090	MAIN BEARING CASE ASSY.	1	
020	1901304540	BEARING CASE BOLT	6	
030	1907704360	BEARING CASE GASKET	1	
040	1901304813	BEARING CASE COVER	1	
050	1711804830	CASE COVER GASKET	1	
060	0112350825	BOLT	8	
070	0112350828	BOLT	8	
080	1920204460	OIL SEAL	1	
090	1901304040	MAIN BEARING CASE ASSY.	1	
100	1901304050	MAIN BEARING CASE ASSY.	1	
110	1901304060	MAIN BEARING CASE ASSY.	1	
120	1560104560	BEARING CASE BOLT	2	

KUBOTA D1403— INLET MANIFOLD ASSY.

INLET MANIFOLD ASSY.



KUBOTA D1403— INLET MANIFOLD ASSY.

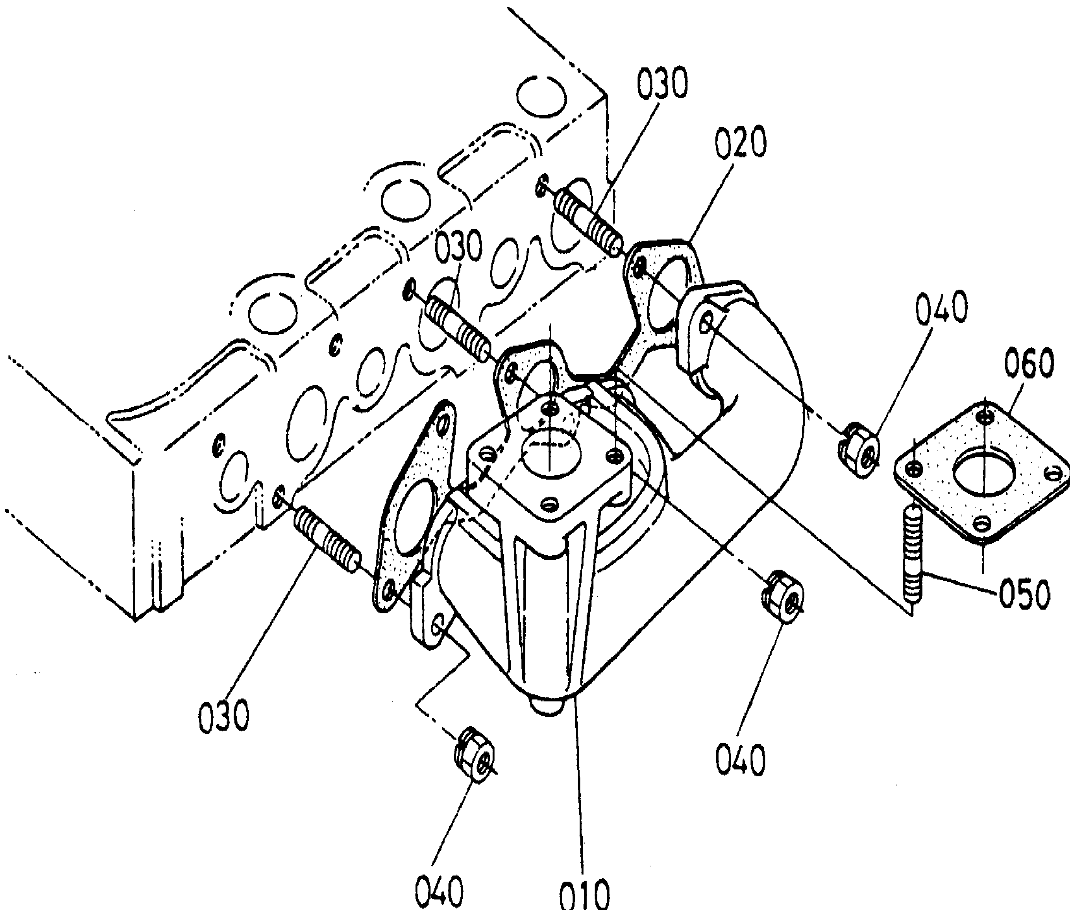
Full View

INLET MANIFOLD ASSY.

NO.	PART NO.	PART NAME	QTY.	REMARKS
010	1718211760	INLET MANIFOLD	1	
020	1718205550	BREATHER JOINT	1	
030	1732611820	IN-MANIFOLD GASKET	1	
040	0112350822	BOLT	5	

KUBOTA D1403— EXHAUST MANIFOLD ASSY.

EXHAUST MANIFOLD ASSY.



KUBOTA D1403— EXHAUST MANIFOLD ASSY.

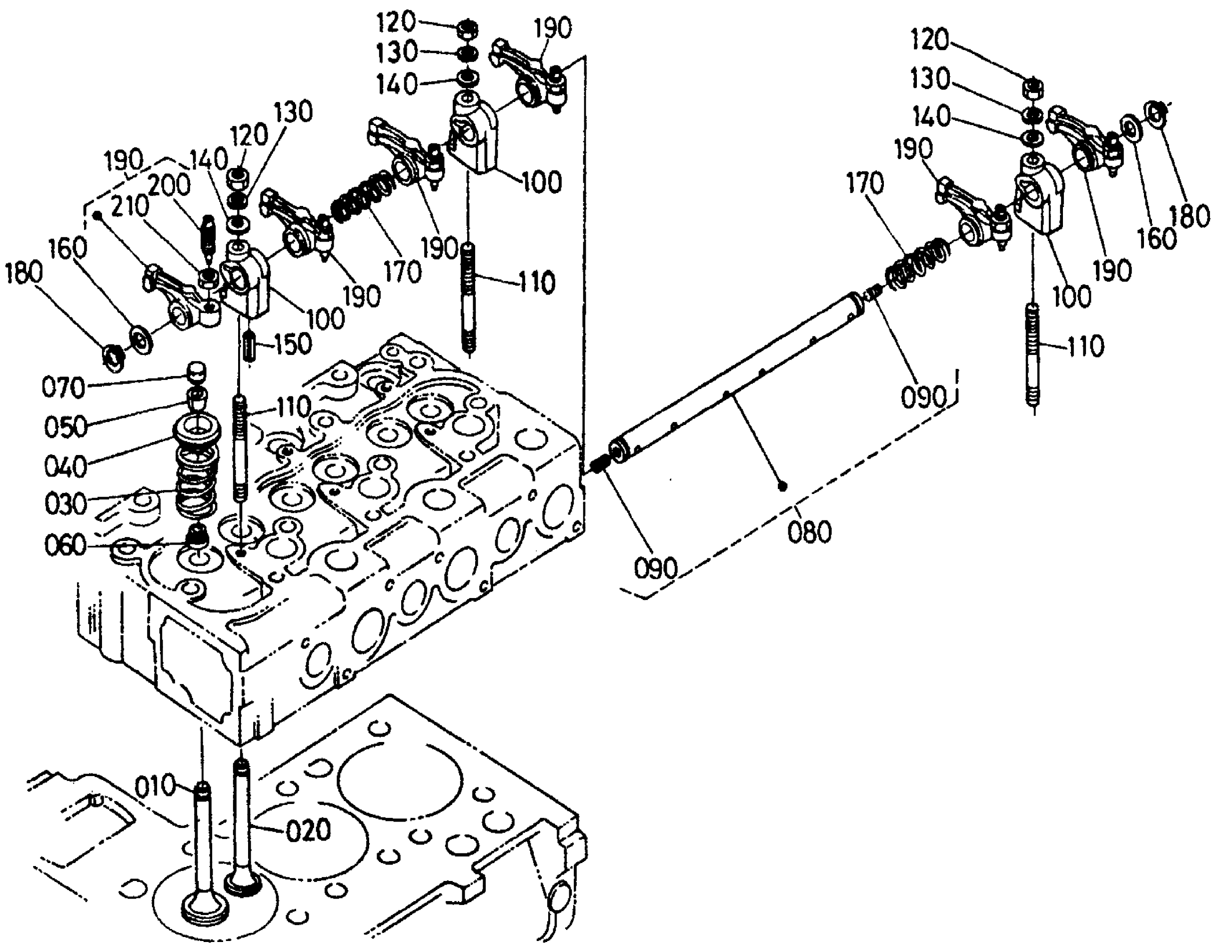
EXHAUST MANIFOLD ASSY.

Full View

NO.	PART NO.	PART NAME	QTY.	REMARKS
010	1927412312	EXHAUST MANIFOLD	1	
020	1531312350	EX-MANIFOLD GASKET	1	
030	1522191530	STUD	6	
040	1642992010	NUT	6	
050	151350822	STUD	4	
060	1526312370	MUFFLER GASKET	1	

KUBOTA D1403— VALVE AND ROCKER ASSY.

VALVE AND ROCKER ASSY.



KUBOTA D1403— VALVE AND ROCKER ASSY.

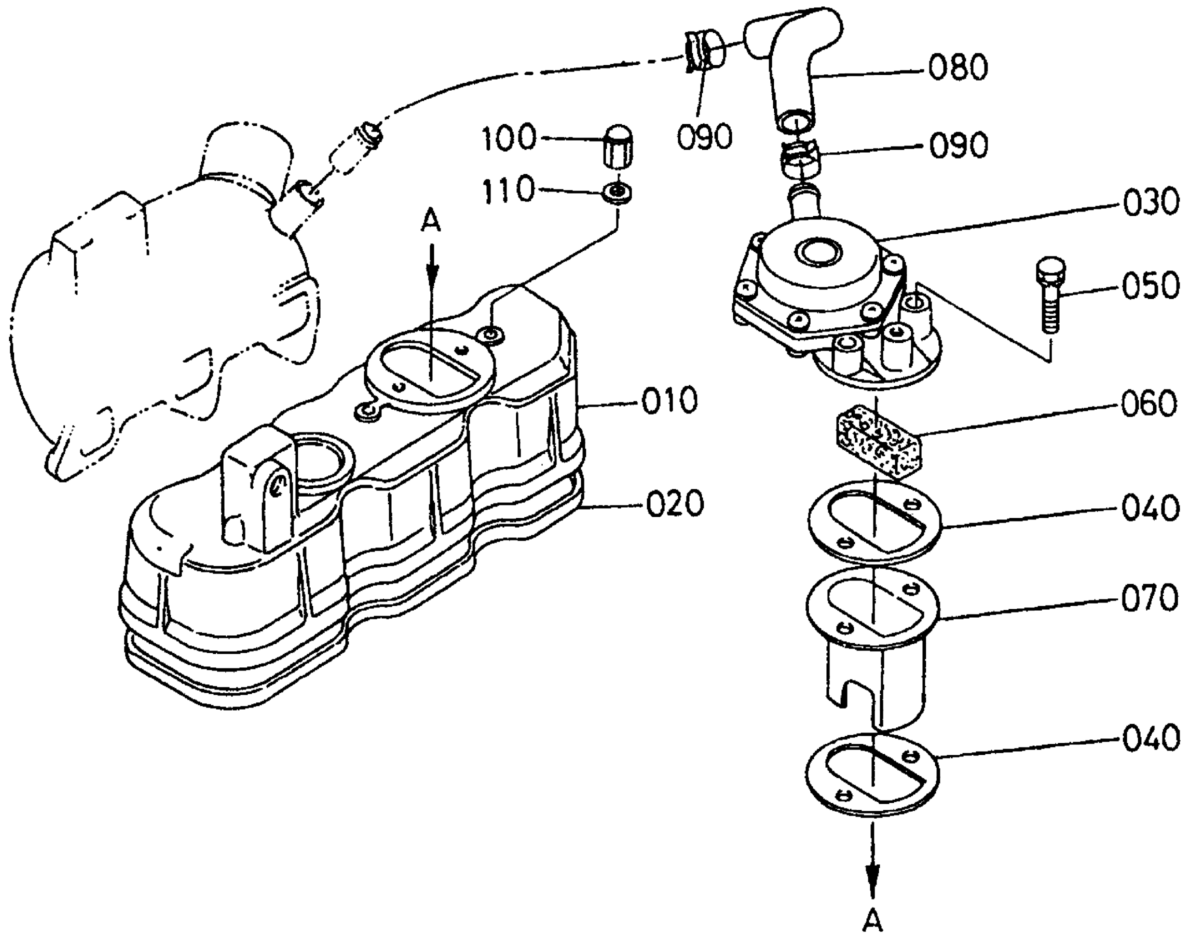
VALVE AND ROCKER ASSY.

Full View

NO.	PART NO.	PART NAME	QTY.	REMARKS
010	1648413110	INLET VALVE	3	
020	1648413120	EXHAUST VALVE	3	
030	1522113240	VALVE SPRING	6	
040	1522113330	VALVE SPRING RETAINER	6	
050	1522113360	VALVE SPRING COLLET	6	
060	1522113150	VALVE STEM SEAL	6	
070	1522113280	VALVE CAP	6	
080	1540114052	ROCKER ARM SHAFT ASSY.	1	INCLUDES ITEMS W/*
090*	0341000808	SET SCREW	2	
100	1522114350	ROCKER ARM BRACKET	3	
110	1552191500	STUD	3	
120	0215650080	NUT	3	
130	0451260080	LOCK WASHER	3	
140	0401250080	PLAIN WASHER	3	
150	0541100528	SPRING PIN	1	
160	1522114430	ROCKER ARM SHAFT WASHER	2	
170	1522114310	ROCKER ARM SPRING	2	
180	0461200140	EXTERNAL CIR CLIP	2	
190	1562114030	ROCKER ARM ASSY.	6	INCLUDES ITEMS W/#
200#	1552114230	ADJUSTING SCREW	6	
210#	1502114240	NUT	6	

KUBOTA D1403— HEAD COVER ASSY.

HEAD COVER ASSY.



KUBOTA D1403— HEAD COVER ASSY.

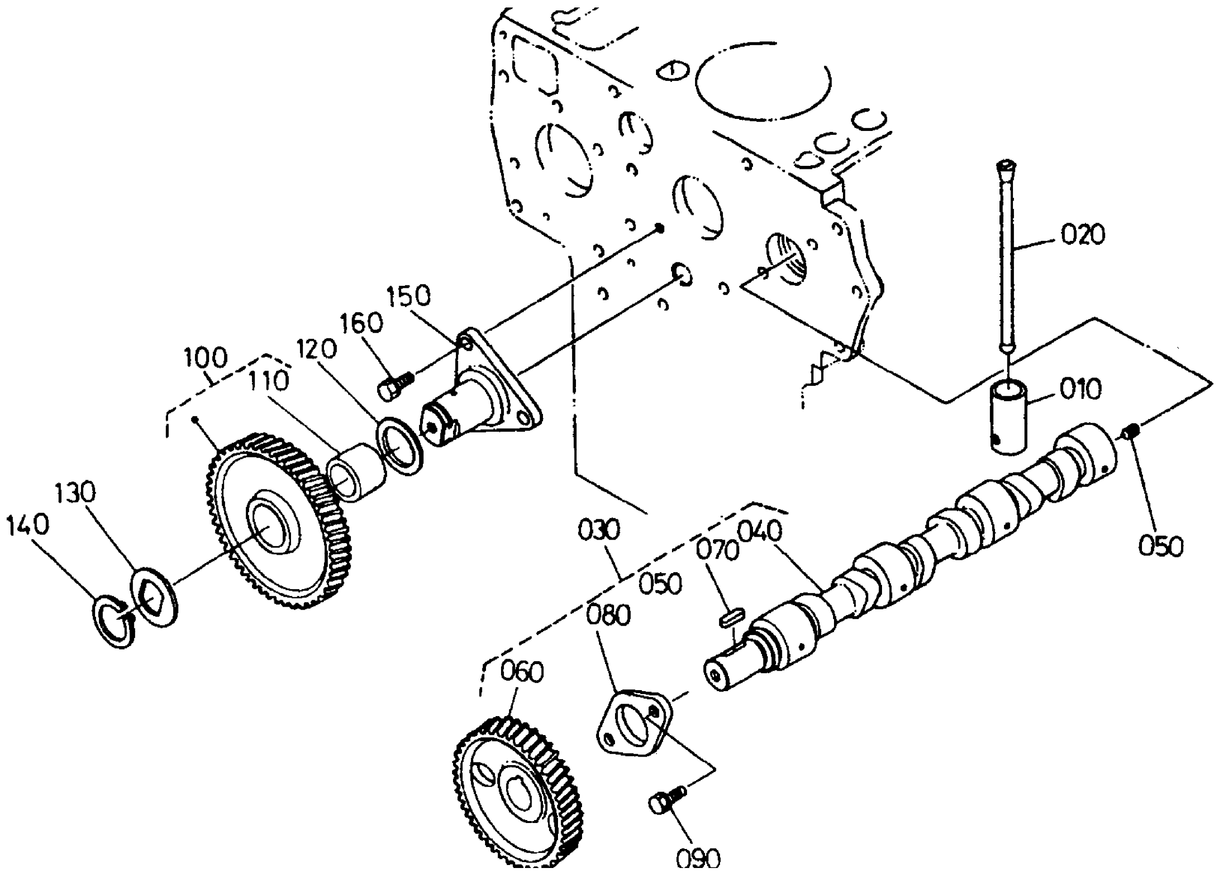
HEAD COVER ASSY.

Full View

NO.	PART NO.	PART NAME	QTY.	REMARKS
010	1718214510	HEAD COVER	1	
020	1552114520	HEAD COVER GASKET	1	
030	1718205020	COMP. BREATHER	1	
040	1711405130	GASKET	2	
050	0112350840	BOLT	2	
060	1624105670	BREATHER ELEMENT	1	
070	1718214490	PLATE	1	
080	1718205510	BREATHER TUBE	1	
090	0931888200	HOSE CLAMP	2	
100	1545192330	CAP NUT	3	
110	1502133660	GASKET	3	

KUBOTA D1403— CAMSHAFT ASSY.

CAMSHAFT ASSY.



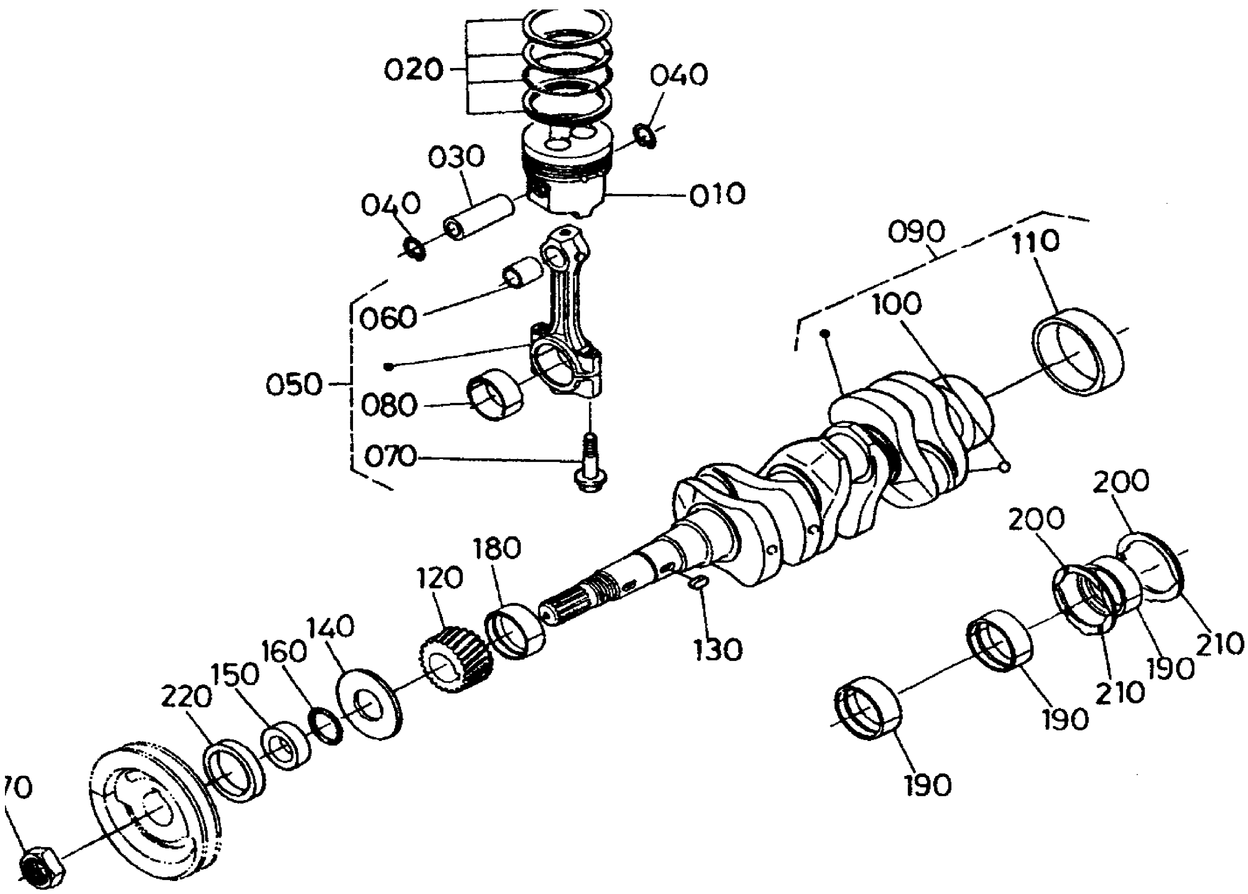
KUBOTA D1403— CAMSHAFT ASSY.

CAMSHAFT ASSY.

NO.	PART NO.	PART NAME	QTY.	REMARKS
010	1560115550	TAPPET	6	
020	1901315110	PUSH ROD	6	
030	1733116010	CAMSHAFT ASSY.	1........	INCLUDES ITEMS W/*
040*	1733116150	CAMSHAFT	1	
050*	1552193610	SET SCREW	1	
060*	1552116510	CAM GEAR	1	
070*	0571200720	FEATHER KEY	1	
080*	1522116270	CAMSHAFT STOPPER	1	
090	0112350818	BOLT	2	
100	1522124010	IDLE COMP. GEAR	1........	INCLUDES ITEMS W/#
110#	1642724980	IDLE GEAR BUSHING	1	
120	1552124360	COLLAR	1	
130	1552124370	COLLAR	1	
140	1522124320	IDLE GEAR CIR. CLIP	1	
150	1981824250	IDLE GEAR SHAFT	1	
160	0112350818	BOLT	3	

KUBOTA D1403— PISTON AND CAMSHAFT ASSY.

PISTON AND CAMSHAFT ASSY.



KUBOTA D1403— PISTON AND CAMSHAFT ASSY.

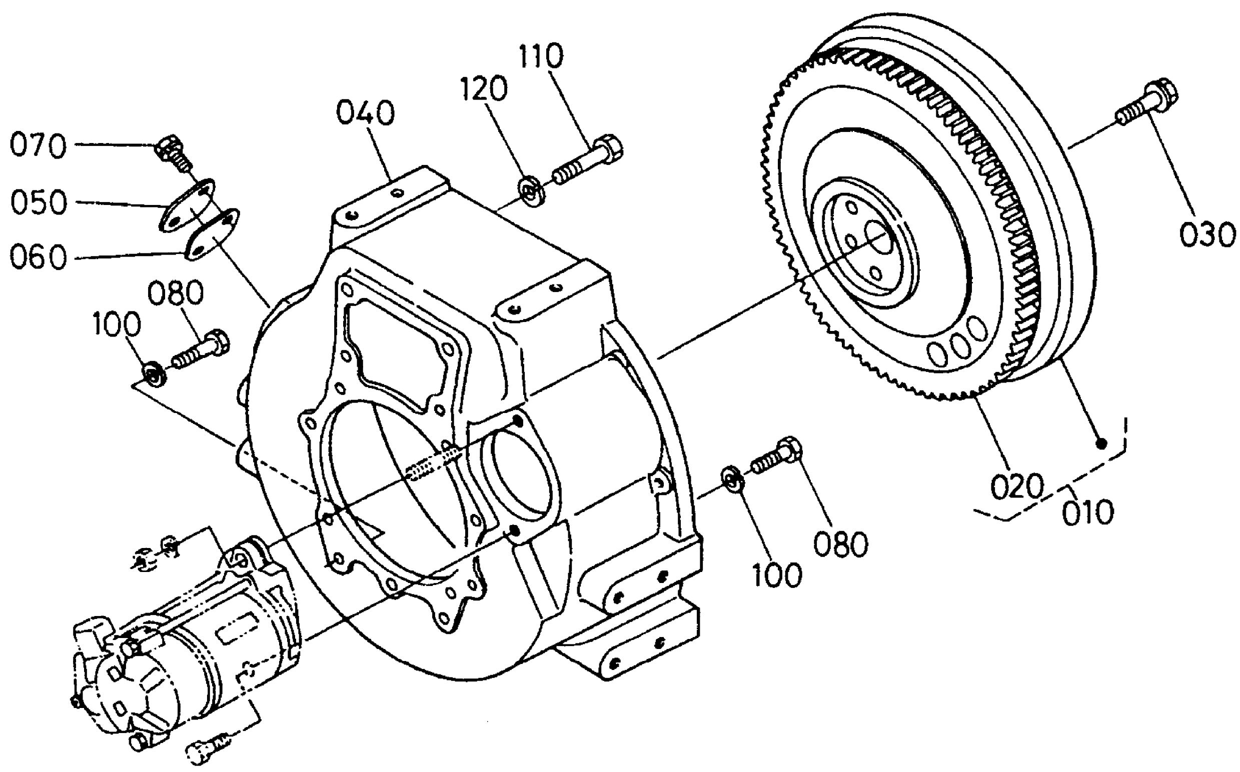
PISTON AND CRANKSHAFT ASSY.

NO.	PART NO.	PART NAME	QTY.	REMARKS
010	1642721110	PISTON	3	S T D
010	1642721910	PISTON	3	+ 0.5 M M
020	1642721050	PISTON RING ASSY.	3	STD
020	1642721090	PISTON RING ASSY	3	+0.50MM
030	1490121310	PISTON PIN	3	
040	1410921330	PISTON PIN CLIP	6	
050	1731122010	CONNECTING ROD ASSY.	3	INCLUDES ITEMS W/*
060*	1733121980	PISTON PIN BUSHING	3	
070*	1552122142	CONNECTING ROD BOLT	6	
080*	1731122310	METAL CRANKPIN	3	STD SET
080	1733122970	METAL CRANKPIN	3	-0.20MM,SET
080	1733122980	METAL CRANKPIN	3	-0.40MM,SET
090	1641423010	COMP. CRANKSHAFT	1	INCLUDES ITEMS W/#
100#	0771500401	BALL	3	
110#	1920223280	CRANKSHAFT BUSHING	1	
120	1547124110	CRANK GEAR	1	
130	0571200720	FEATHER KEY	1	
140	1547123312	OIL SLINGER	1	
150	1920223250	CRANKSHAFT COLLAR	1	
160	0481110300	O RING	1	
170	1522123360	CRANKSHAFT NUT	1	
180	1731123470	METAL CRANKSHAFT	1	STD
180	1731123910	METAL CRANKSHAFT	1	-0.20MM
180	1731123920	METAL CRANKSHAFT	1	-0.40MM
190	1731123480	METAL CRANKSHAFT	3	STD SET
190	1731123930	METAL CRANKSHAFT	3	-0.20MM, SET
190	1731123940	METAL CRANKSHAFT	3	-0.40MM, SET
200	1552123530	SIDE METAL	2	STD
200	1522123950	SIDE METAL	2	+0.20MM
200	1522123960	SIDE METAL	2	+0.40MM
210	1920223540	SIDE METAL	2	STD
210	1920223970	SIDE METAL	2	+0.20MM
210	1920223980	SIDE METAL	2	+0.40MM
220	1920204140	OIL SEAL	1	

Full View

KUBOTA D1403— FLYWHEEL ASSY.

FLYWHEEL ASSY.



KUBOTA D1403— FLYWHEEL ASSY.

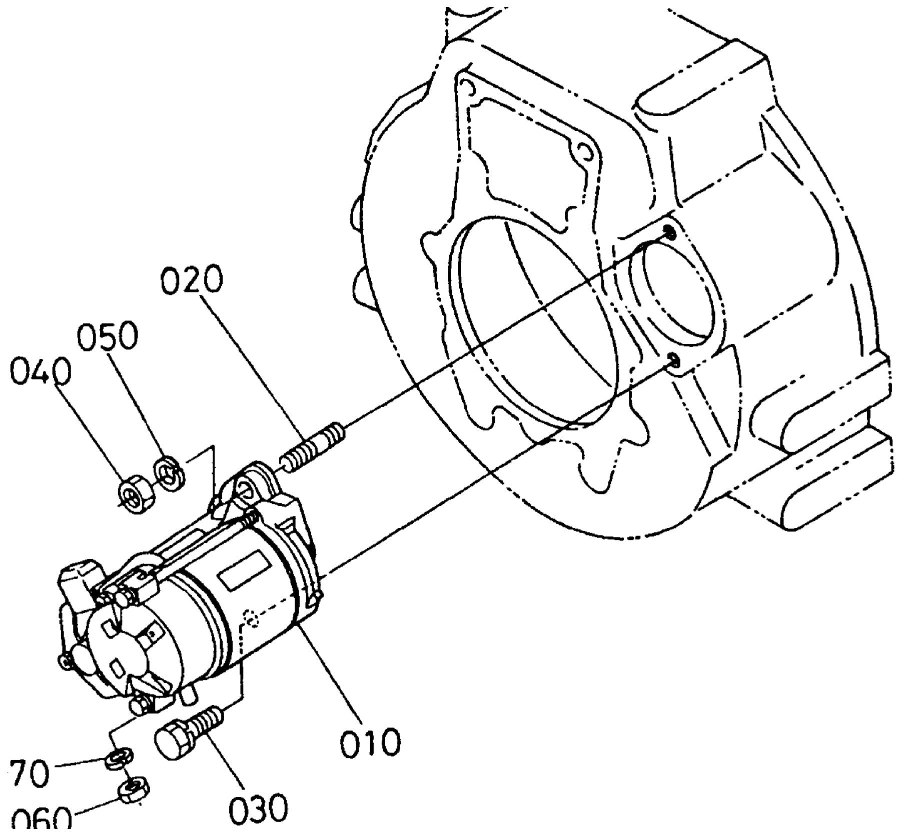
FLYWHEEL ASSY.

Full View

NO.	PART NO.	PART NAME	QTY.	REMARKS
010	1722225010	FLYWHEEL COMP.	1	INCLUDES ITEMS W/*
020*	1560263820	RING GEAR	1	
030	1532125163	FLYWHEEL BOLT	6	
040	1747504610	FLYWHEEL HOUSING	1	
050	0152104680	COVER	1	
060	1552104790	COVER PACKING	1	
070	0112360816	BOLT	2	
080	0107351032	BOLT	11	
100	0451260100	LOCK WASHER	11	
110	0107351250	BOLT	2	
120	0451260120	LOCK WASHER	2	

KUBOTA D1403— STARTER ASSY.

STARTER ASSY.



KUBOTA D1403— STARTER ASSY.

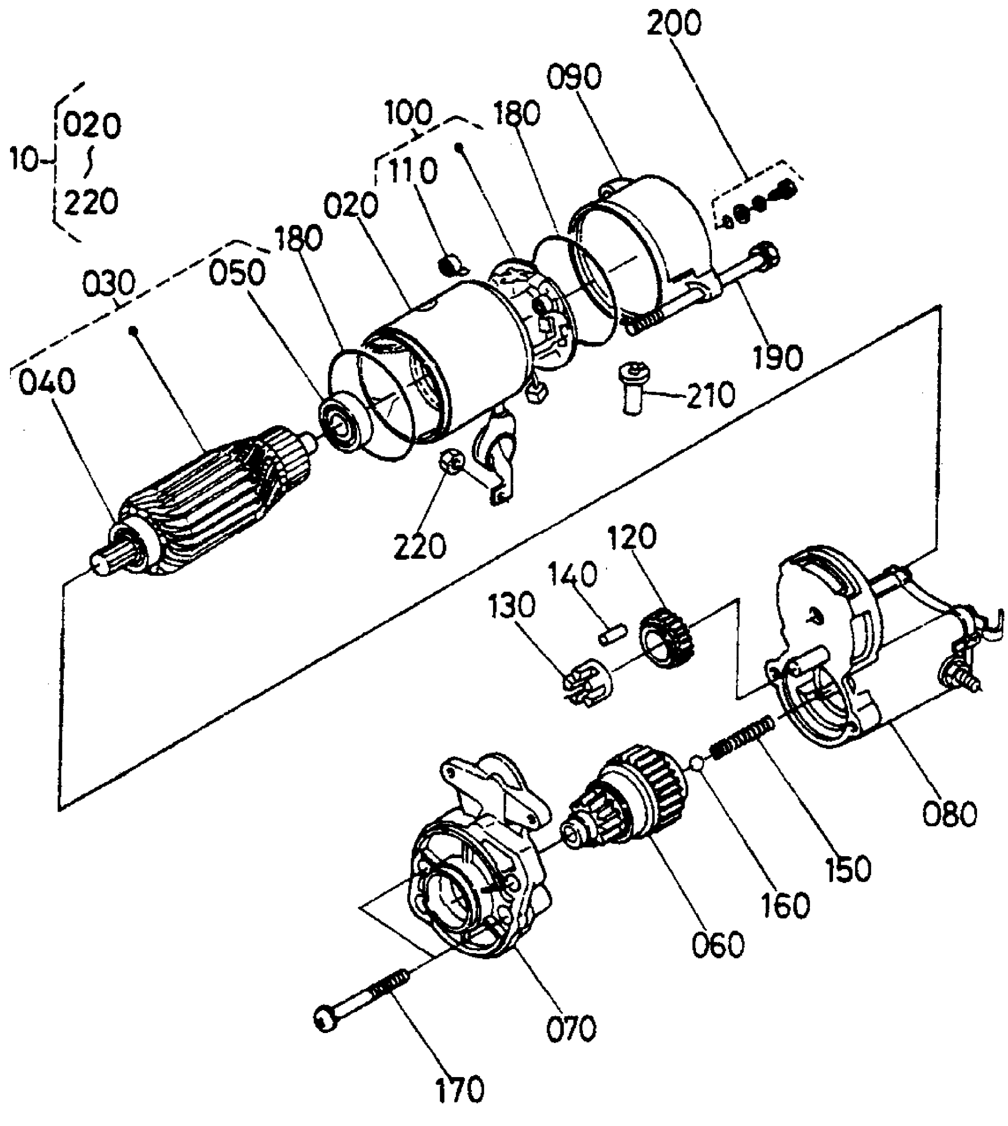
Full View

STARTER ASSY.

NO.	PART NO.	PART NAME	QTY.	REMARKS
010	7000065440	STARTER ASSY.	1	REPLACES 1738163012
020	0151751028	STUD	1	
030	0113351030	BOLT	1	
040	0217650100	NUT	1	
050	0451260100	LOCK WASHER	1	
060	0211450080	NUT	1	
070	0451260080	LOCK WASHER	1	

KUBOTA D1403— STARTER (COMPONENTS) ASSY.

STARTER (COMPONENTS) ASSY.



KUBOTA D1403— STARTER (COMPONENTS) ASSY.

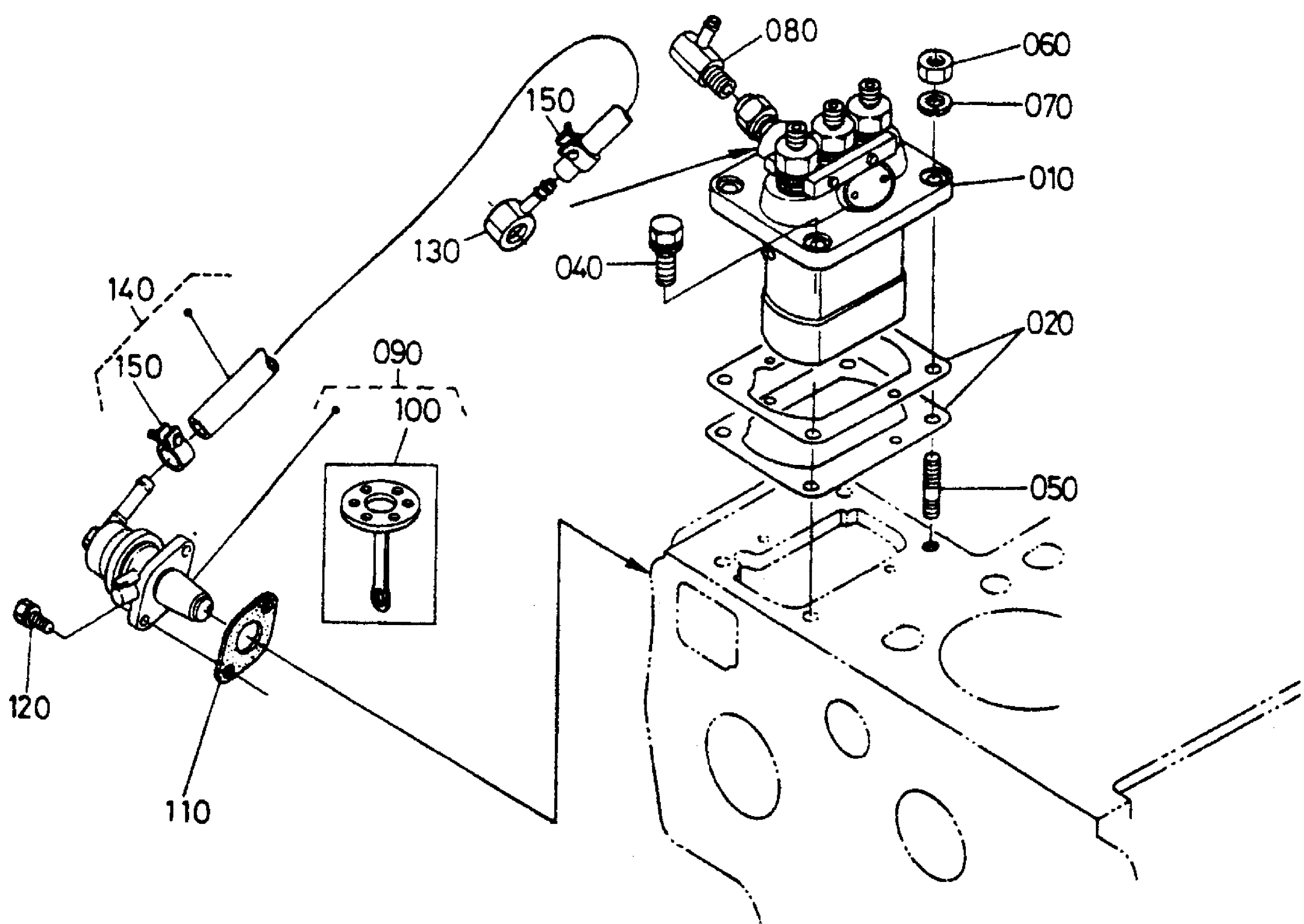
STARTER (COMPONENTS) ASSY.

Full View

NO.	PART NO.	PART NAME	QTY.	REMARKS
010	7000065440	STARTER ASSY.	1	INCLUDES ITEMS W/*; REPLACES 1738163012
020*	1119763080	YOKE ASSY.	1	
030*	1119763070	ARMATURE ASSY.	1	INCLUDES ITEMS W/#
040*#	1146063500	BEARING	1	
050*#	1146063530	BEARING	1	
060*	1562163040	OVER RUNNING CLUTCH	1	
070*	1648463030	DRIVE END FRAME	1	
080*	1648463020	MAGNETIC SWITCH	1	
090*	1648463200	END FRAME	1	
100*	1738163380	BRUSH HOLDER ASSY.	1	INCLUDES ITEMS W/%
110*%	1540163390	BRUSH SPRING	4	
120*	1146063270	GEAR	1	
130*	1146063110	RETAINER	1	
140*	1921263100	ROLLER	5	
150*	1146063120	SPRING	1	
160*	1921297130	BALL	1	
170*	1146093310	BOLT	2	
180*	1551196660	O RING	2	
190*	1119763320	BOLT	2	
200*	1551163760	BOLT ASSY.	2	
210*	1628563570	DRAIN PIPE	1	
220*	1396392010	HEXAGON NUT	1	

KUBOTA D1403— INJECTION PUMP 1 ASSY.

INJECTION PUMP 1 ASSY.



KUBOTA D1403— INJECTION PUMP 1 ASSY.

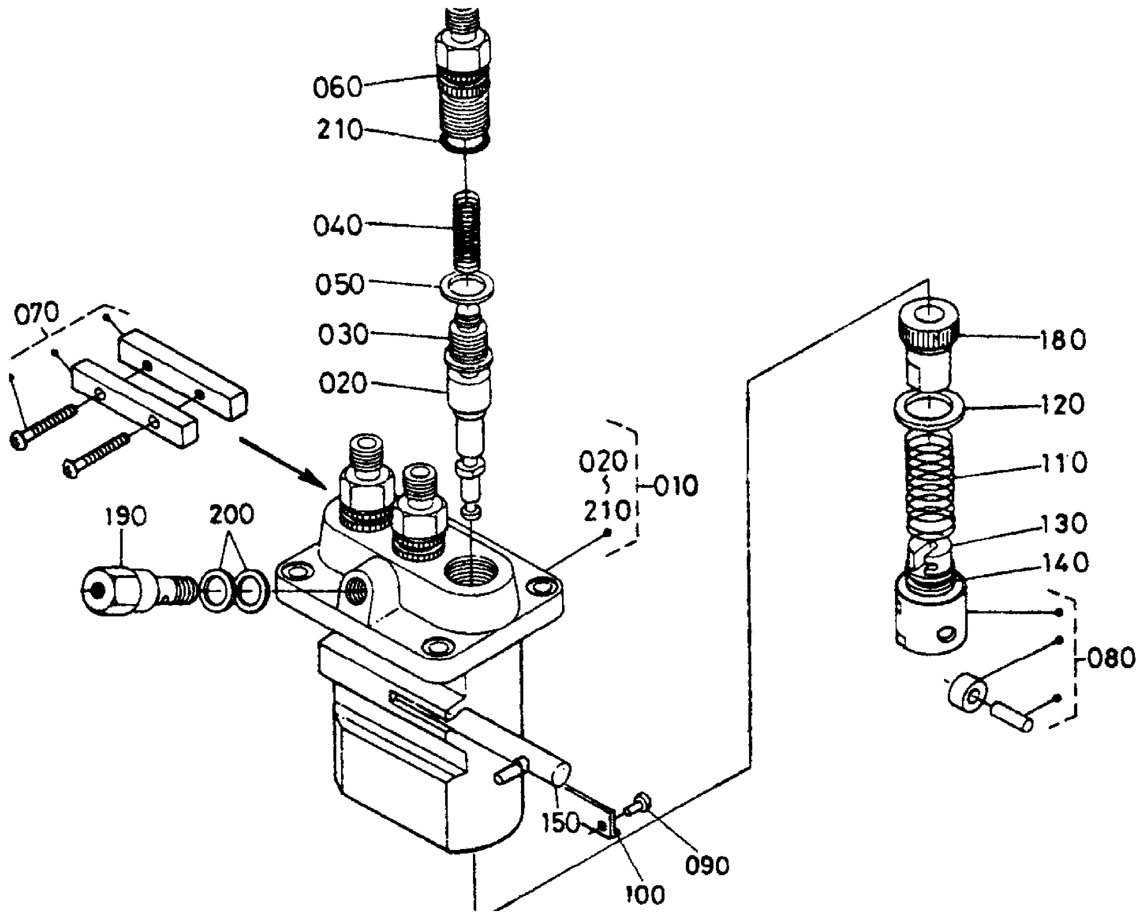
INJECTION PUMP 1 ASSY.

Full View

NO.	PART NO.	PART NAME	QTY.	REMARKS
010	1718251010	INJECTION PUMP ASSY.	1	
020	1641452090	INJECTION SHIM	1	0.20MM
020	1641452110	INJECTION SHIM	1	0.25MM
020	1641452120	INJECTION SHIM	1	0.30MM
040	0112350822	BOLT	2	
050	1522191530	STUD	2	
060	0215650080	NUT	2	
070	0451260080	LOCK WASHER	2	
080	1574860570	ORIFICE ASSY.	1	
090	1712152030	FUEL PUMP ASSY.	1	INCLUDES ITEMS W/*
100*	1984452040	DIAPHRAGM COMP.	1	
110	1526352140	FUEL PUMP GASKET	1	
120	0102350616	BOLT	2	
130	1411142410	EYE JOINT	1	
140	1468142010	FUEL PIPE ASSY.	1	INCLUDES ITEMS W/#
150#	1430142750	PIPE CLIP	2	

KUBOTA D1403— INJECTION PUMP 2 ASSY.

INJECTION PUMP 2 ASSY.



KUBOTA D1403— INJECTION PUMP 2 ASSY.

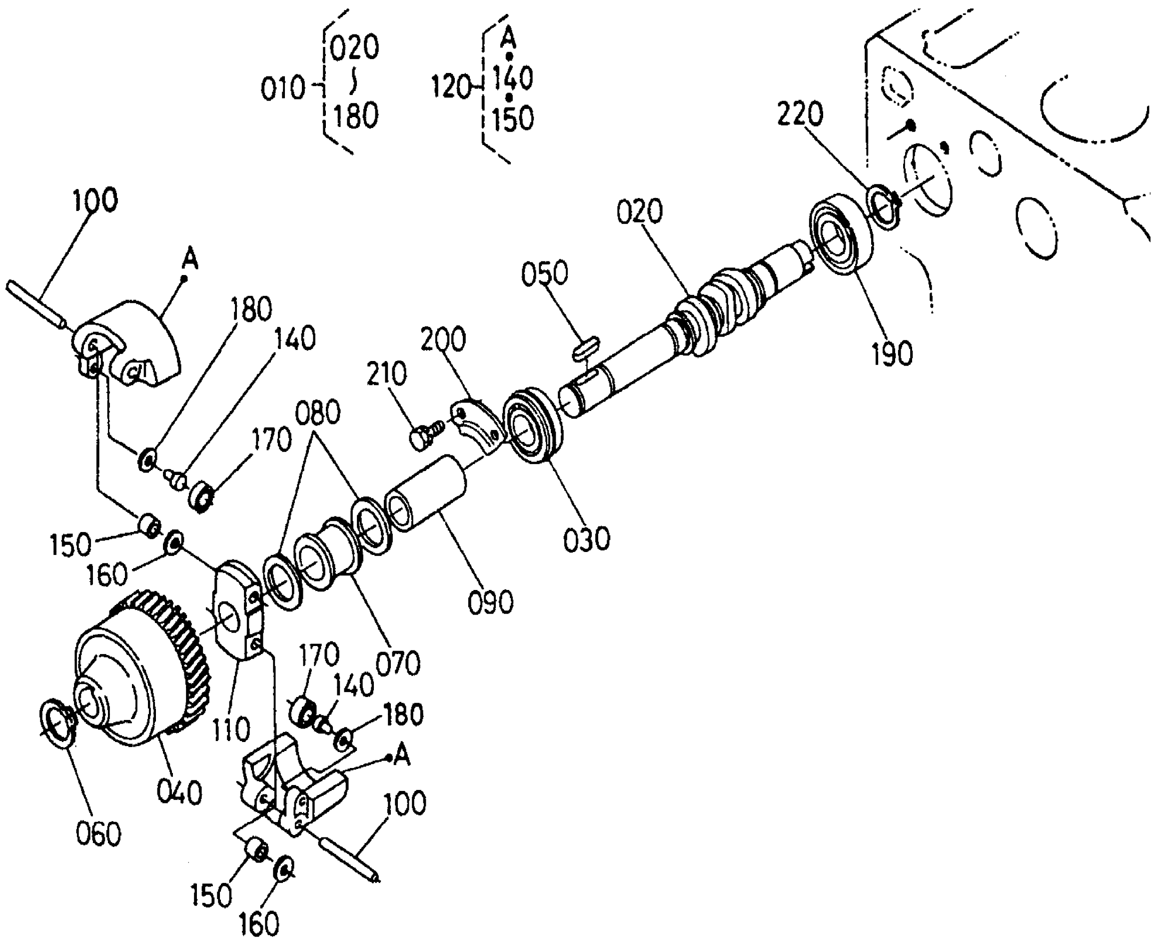
INJECTION PUMP ASSY. 2

Full View

NO.	PART NO.	PART NAME	QTY.	REMARKS
010	1718251010	INJECTION PUMP ASSY.	1	INCLUDES ITEMS W/*
020*	1718251050	PUMP PLUNGER	3	
030*	1647551030	DELIVERY VALVE	3	
040*	1647551230	DELIVERY VALVE SPRING	3	
050*	1142051240	DELIVERY VALVE GASKET	3	
060*	1641551220	DELIVERY VALVE HOLDER	3	
070*	1641551610	LOCK PLATE ASSY.	1	
080*	1522151070	TAPPET ASSY.	3	
090*	1461151250	TAPPET GUIDE PIN	3	
100*	1948451460	PLATE	1	
110*	1522151280	PLUNGER SPRING	3	
120*	1522151270	UPPER SPRING SEAT	3	
130*	1522151290	LOWER SPRING SEAT	3	
140*	1907751490	SHIM	3	
150*	1718251060	CONTROL RACK	1	
180*	1707951380	CONTROL SLEEVE	3	
190*	1552151320	FOLLOW SCREW	1	
200*	1522196650	GASKET	2	
210*	1461151200	O RING	3	

KUBOTA D1403— FUEL CAMSHAFT ASSY.

FUEL CAMSHAFT ASSY.



KUBOTA D1403— FUEL CAMSHAFT ASSY.

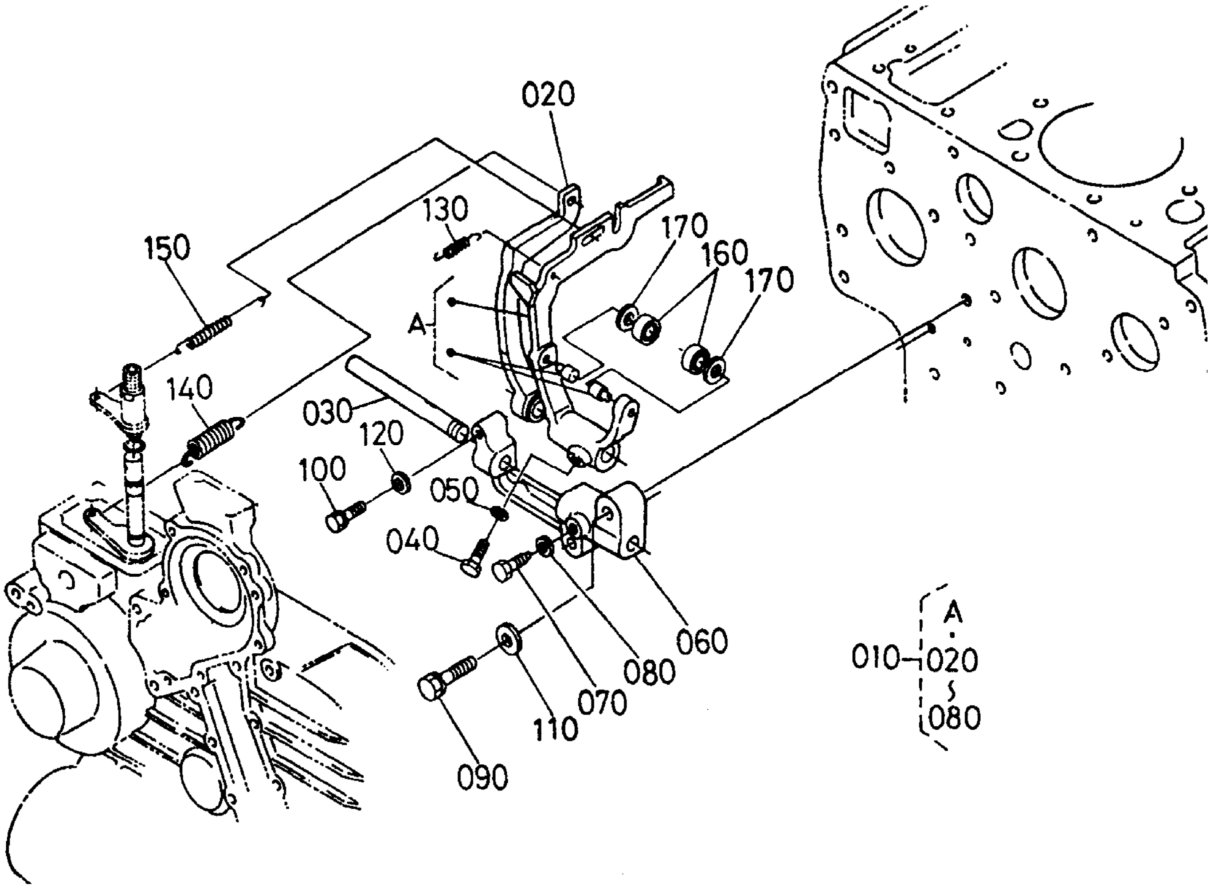
FUEL CAMSHAFT ASSY.

Full View

NO.	PART NO.	PART NAME	QTY.	REMARKS
010	1718216020	FUEL CAMSHAFT ASSY.	1	INCLUDES ITEMS W/*
020*	1718216170	FUEL CAMSHAFT	1	
030*	0815306205	BALL BEARING	1	
040*	1666251150	INJECTION PUMP GEAR	1	
050*	0571200525	FEATHER KEY	1	
060*	0461200240	EXTERNAL CIR. CLIP	1	
070*	1981855450	GOVERNOR SLEEVE	1	
080*	1981855460	THRUST WASHER	2	
090*	1981855510	GOVERNOR WEIGHT COLLAR	1	
100*	1981855260	GOVERNOR WEIGHT SHAFT	2	
110*	1666255270	GOVERNOR WEIGHT HOLDER	1	
120*	1666255060	GOVERNOR WEIGHT COMP.	2	INCLUDES ITEMS W/#
140*#	1981855280	GOVERNOR WEIGHT PIN	2	
150*#	198185380	GOVERNOR BUSHING	4	
160*	166255620	PLAIN WASHER	4	
170*	1981855600	BEARING	2	
180*	1981855340	WASHER	2	
190	0810306205	BALL BEARING	1	
200	152216320	CAMSHAFT FUEL STOPPER	1	
210	0112360814	BOLT	2	
220	0461200250	EXTERNAL CIR. CLIP	1	

KUBOTA D1403— GOVERNOR ASSY.

GOVERNOR ASSY.



KUBOTA D1403— GOVERNOR ASSY.

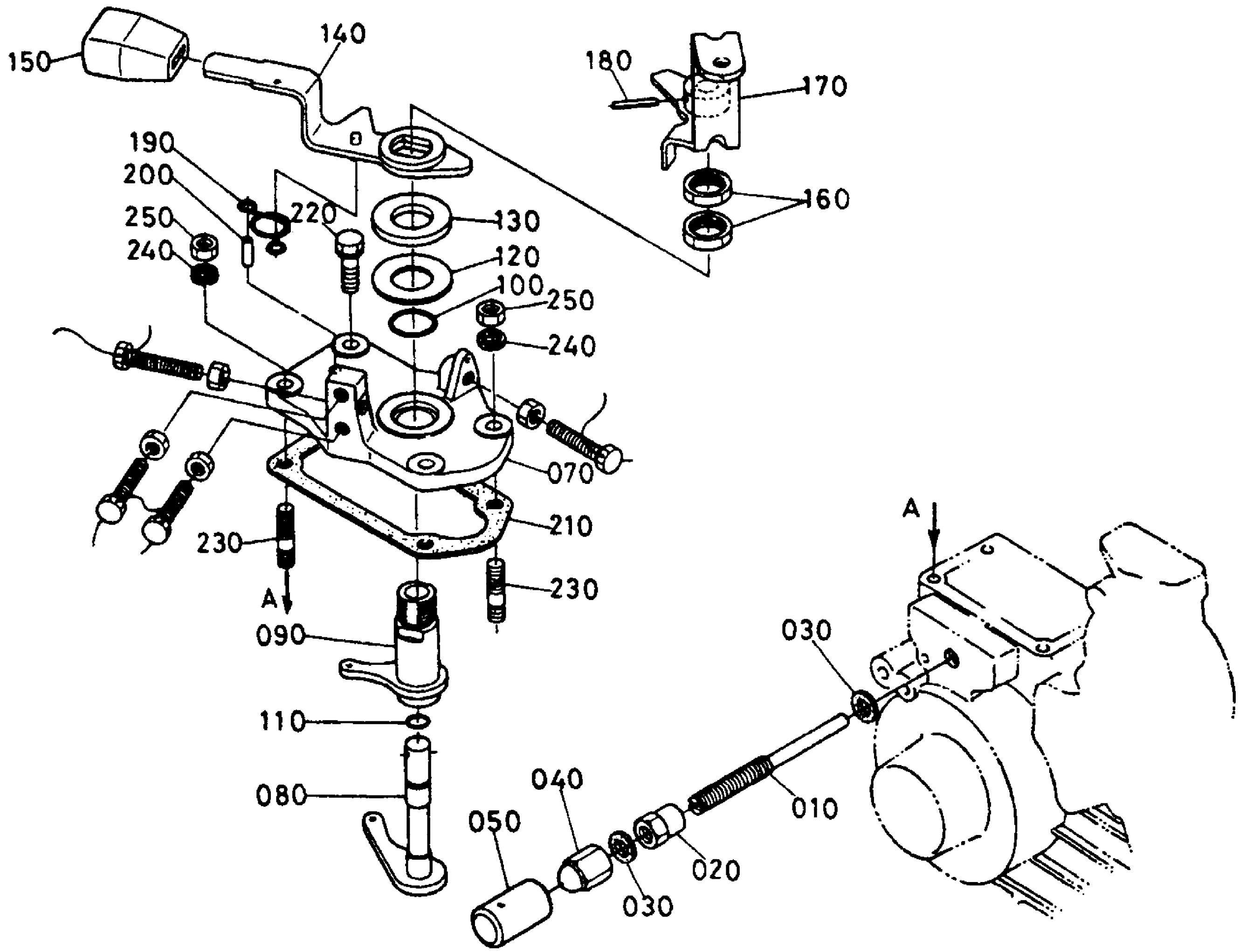
GOVERNOR ASSY.

Full View

NO.	PART NO.	PART NAME	QTY.	REMARKS
010	1718256050	FORK LEVER ASSY.	1	INCLUDES ITEMS W/*
020*	1707656130	FORK LEVER	1	
030*	1981856150	FORK LEVER SHAFT	1	
040*	0105350518	BOLT	1	
050*	0451260050	LOCK WASHER	1	
060*	1707656230	FORK LEVER HOLDER	1	
070*	1522166410	BOLT	1	
080*	0451260060	LOCK WASHER	1	
090	0112350832	BOLT	2	
100	0102350628	BOLT	1	
110	0401250080	PLAIN WASHER	2	
120	0401250060	PLAIN WASHER	1	
130	1981856480	START SPRING	1	
140	1718256412	GOVERNOR SPRING	1	
150	1718256420	GOVERNOR SPRING	1	
160	1981855600	BEARING	2	
170	1981855340	WASHER	2	

KUBOTA D1403— SPEED CONTROL PLATE ASSY.

SPEED CONTROL PLATE ASSY.



KUBOTA D1403— SPEED CONTROL PLATE ASSY.

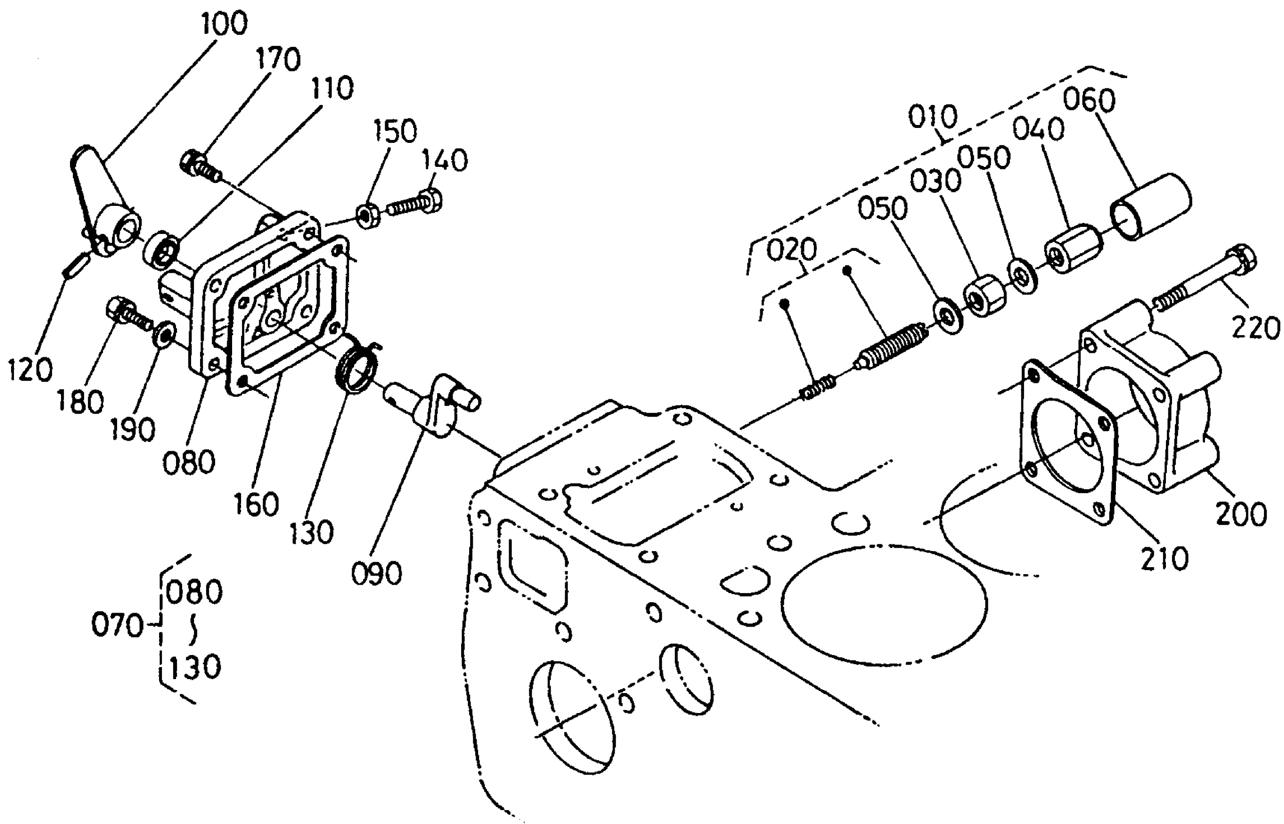
SPEED CONTROL PLATE ASSY.

Full View

NO.	PART NO.	PART NAME	QTY.	REMARKS
010	1981854120	ADJUSTING BOLT	1	
020	1560192010	NUT	1	
030	1560196650	GASKET	2	
040	1584114620	CAP NUT	1	
050	1622154420	CAP	1	
070	1707657110	SPEED CONTROL PLATE	1	
080	1707657740	LEVER SHAFT	1	
090	1707656110	GOVERNOR LEVER	1	
100	0481110160	O RING	1	
110	0481110070	O RING	1	
120	1362216670	CAMSHAFT SHIM	1	
130	1707957380	COLLAR	1	
140	1707657162	CHANGE LEVER	1	
150	3691927820	PTO LEVER GRIP	1	
160	1584192010	SPEED CONTROL NUT	2	
170	1707657152	SPEED CONTROL LEVER	1	
180	0541100318	SPRING PIN	1	
190	1707657510	CHANGE SPRING	1	
200	0501200412	STRAIGHT PIN	1	
210	1543957210	GASKET	1	
220	0102350620	BOLT	2	
230	1522188210	STUD	2	
240	0451260060	LOCK WASHER	2	
250	0205650060	NUT	2	

KUBOTA D1403— ENGINE STOP LEVER ASSY.

ENGINE STOP LEVER ASSY.



KUBOTA D1403 — ENGINE STOP LEVER ASSY.

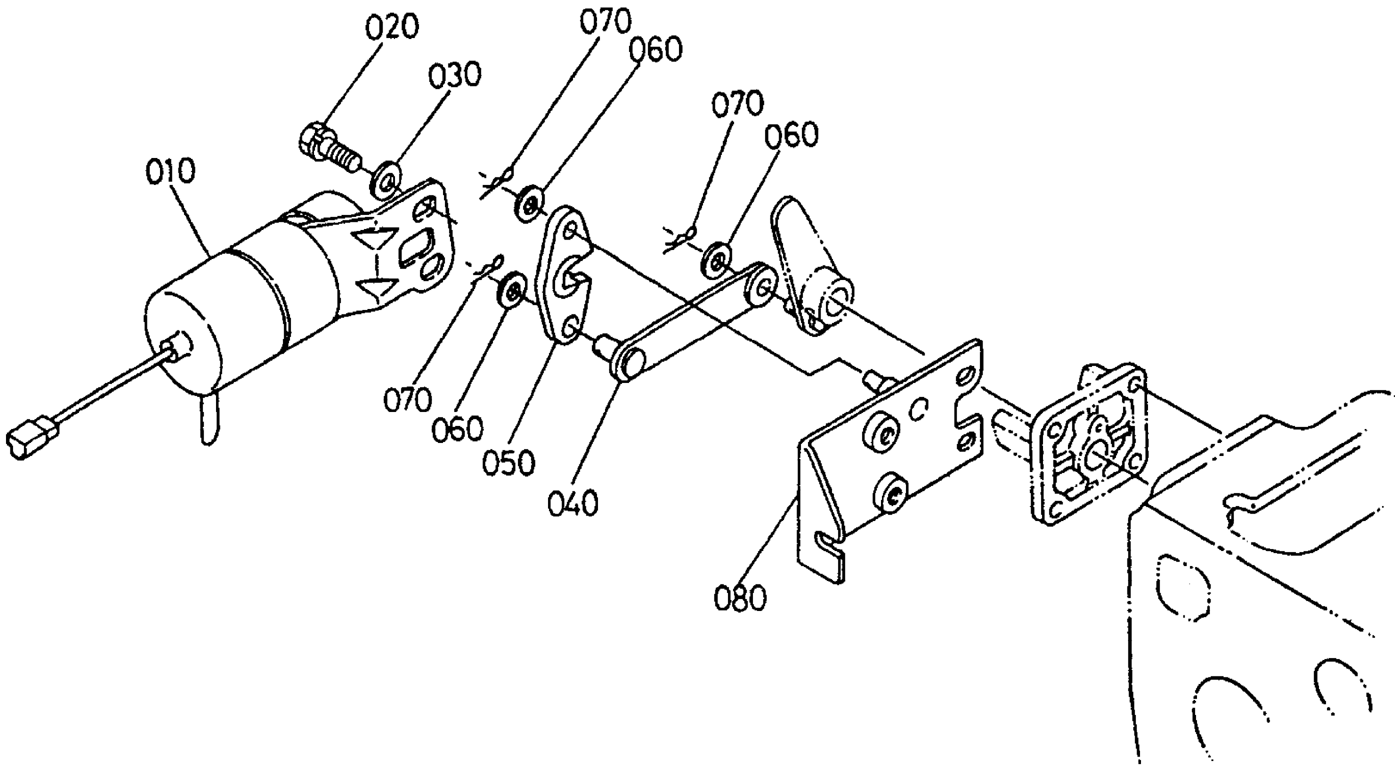
ENGINE STOP LEVER ASSY.

Full View

NO.	PART NO.	PART NAME	QTY.	REMARKS
010	1707654093	IDILING APPARATUS	1	INCLUDES ITEMS W/*
020*	1707654103	ASJUSTMENT BOLT ASSY.	1	
030*	1540192010	NUT	1	
040*	1552192330	CAP NUT	1	
050*	1502133660	GASKET	2	
060*	1552154270	CAP	1	
070	1748257702	ENGINE STOP LEVER ASSY.	1	INCLUDES ITEMS W/#
080#	1718351650	INJECTION PUMP COVER	1	
090#	1733157740	LEVER SHAFT	1	
100#	1748257720	ENGINE STOP LEVER	1	
110#	1547157980	OIL SEAL	1	
120#	0541100420	SPRING PIN	1	
130#	1748257920	RETURN SPRING	1	
140	1510857280	STOPPER	1	
150	0205650060	NUT	1	
160	1529651660	PUMP COVER GASKET	1	
170	0102350618	BOLT	2	
180	0102350622	BOLT	2	
190	0401250060	PLAIN WASHER	2	
200	1718316210	FUEL CAMSHAFT COVER	1	
210	3539437860	GASKET	1	
220	0112350865	BOLT	4	

KUBOTA D1403— STOP SOLENOID ASSY.

STOP SOLENOID ASSY.



KUBOTA D1403— STOP SOLENOID ASSY.

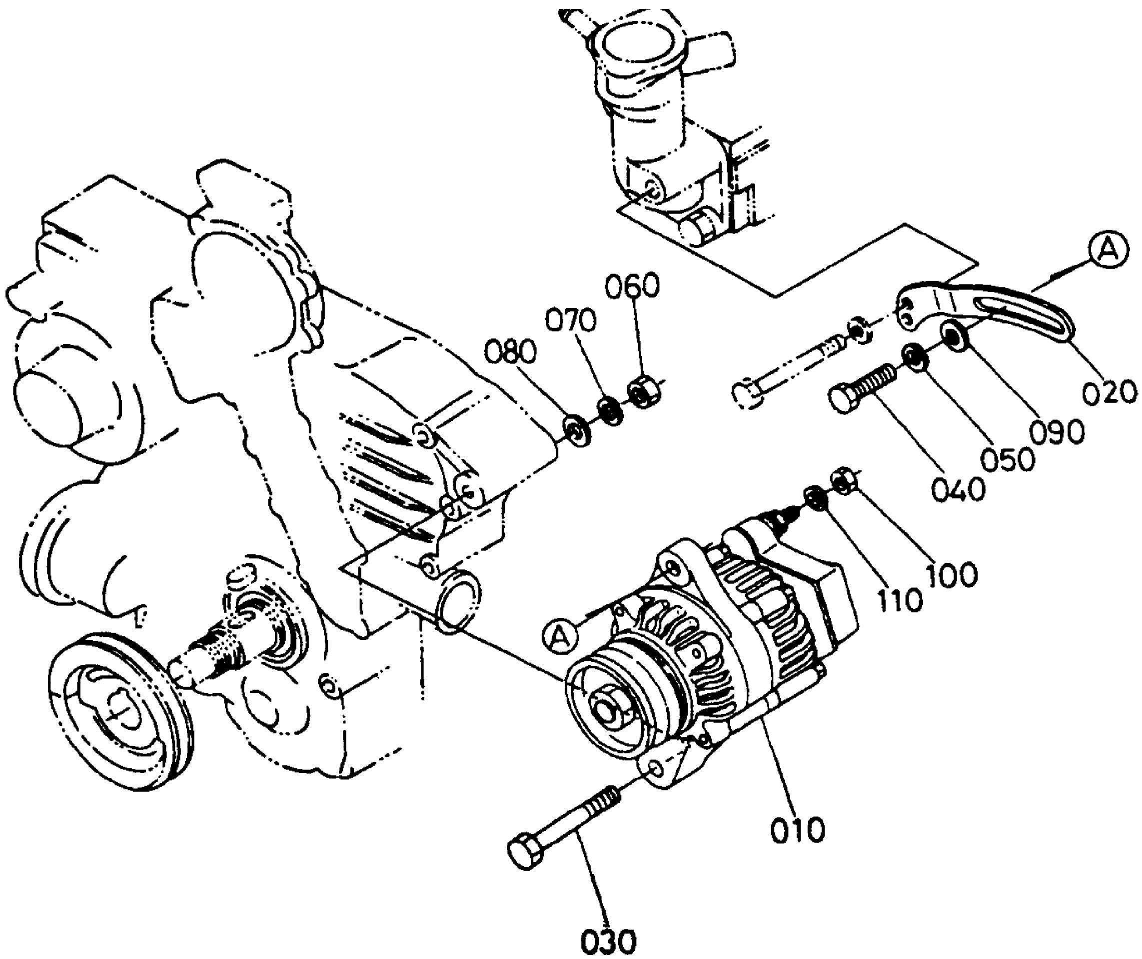
STOP SOLENOID ASSY.

Full View

NO.	PART NO.	PART NAME	QTY.	REMARKS
010	1547160010	STOP SOLENOID	1	
020	0112360816	BOLT	2	
030	0401250080	PLAIN WASHER	2	
040	1733160150	STOP LEVER	1	
050	1547160162	STOP LEVER	1	
060	0401250060	PLAIN WASHER	3	
070	0552550600	SNAP PIN	3	
080	1718260110	SOLENOID SUPPORT	1	

KUBOTA D1403 — ALTERNATOR ASSY.

ALTERNATOR ASSY.



KUBOTA D1403 — ALTERNATOR ASSY.

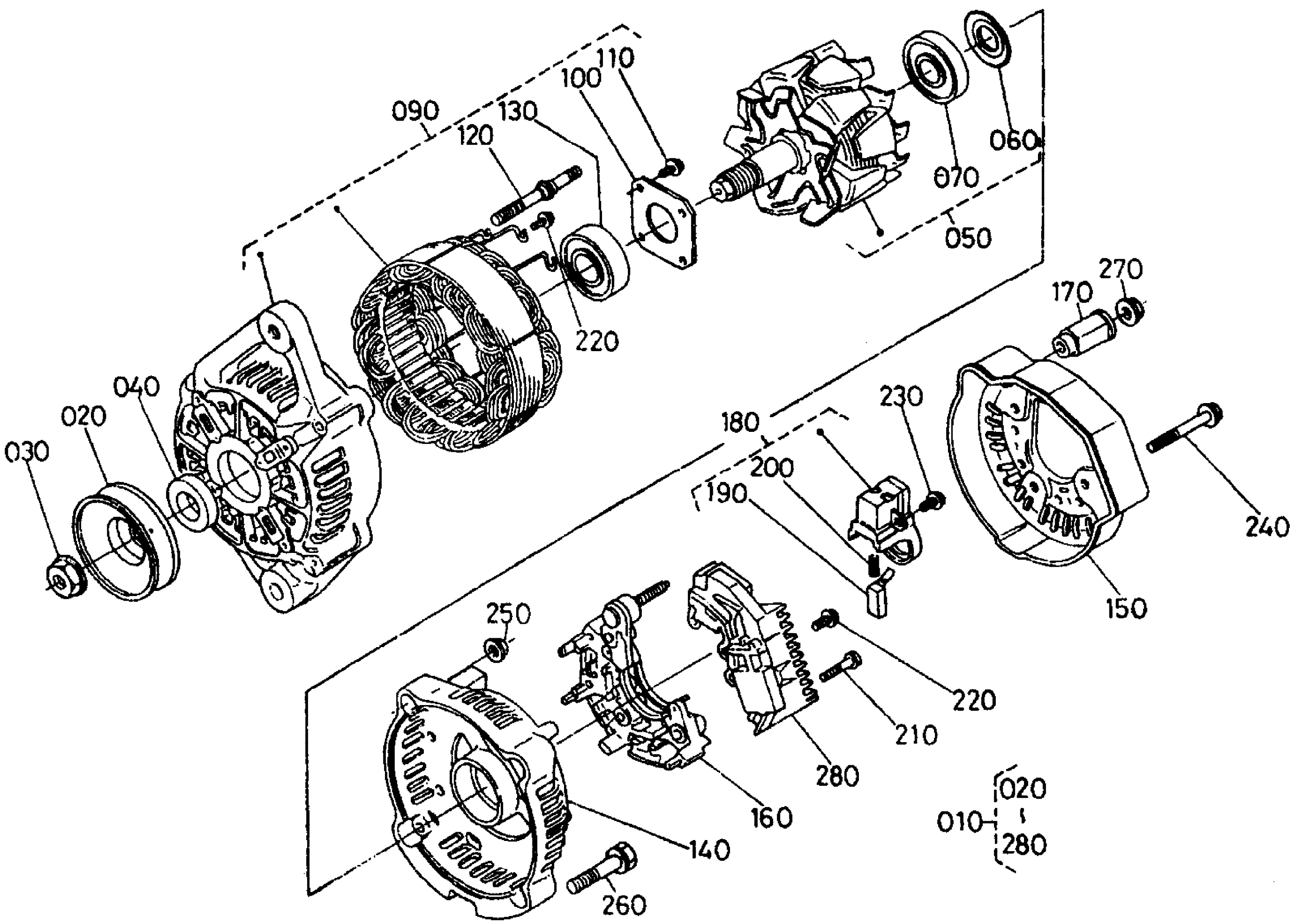
ALTERNATOR ASSY.

Full View

NO.	PART NO.	PART NAME	QTY.	REMARKS
010	1642764010	ALTERNATOR ASSY.	1	
020	TA04074020	DYNAMO STAY	1	
030	0117351000	BOLT	1	
040	0115360830	BOLT	1	
050	0451260080	LOCK WASHER	1	
060	0215650100	NUT	1	
070	0451260100	LOCK WASHER	1	
080	0401150100	PLAIN WASHER	1	
090	0401560080	PLAIN WASHER	1	
100	0205650060	NUT	1	
110	0451260060	LOCK WASHER	1	

KUBOTA D1403— ALTERNATOR (COMPONENTS) ASSY.

ALTERNATOR (COMPONENTS) ASSY.



KUBOTA D1403— ALTERNATOR (COMPONENTS) ASSY.

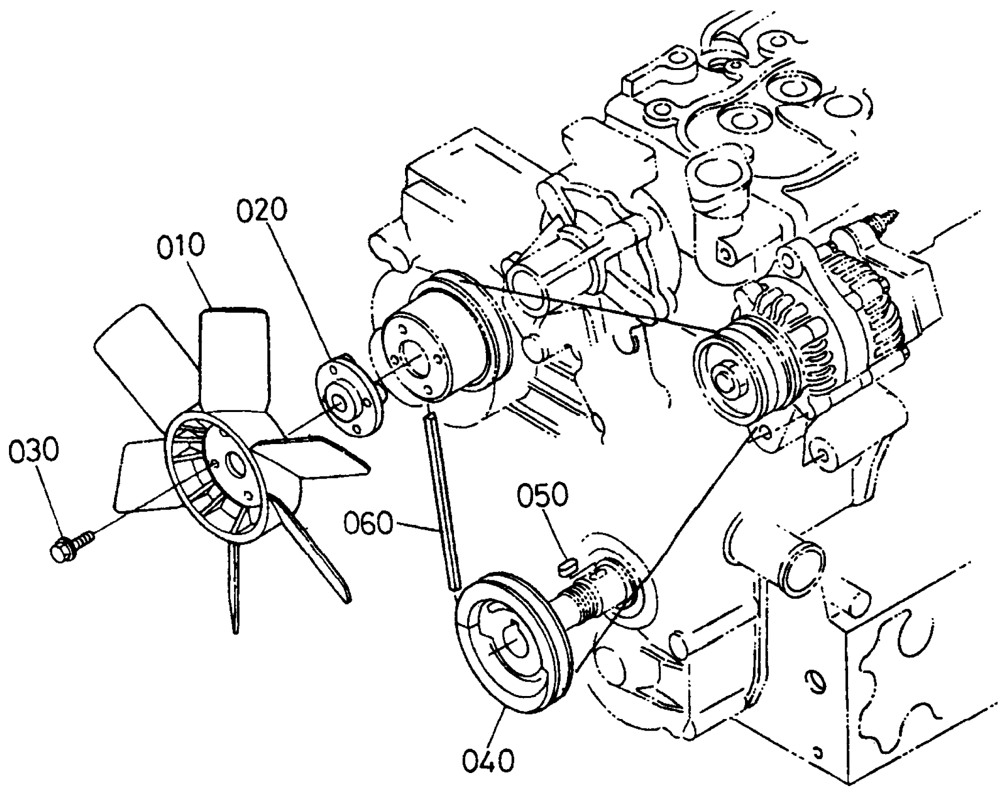
ALTERNATOR (COMPONENTS) ASSY.

Full View

NO.	PART NO.	PART NAME	QTY.	REMARKS
010	1642764010	ALTERNATOR ASSY.	1	INCLUDES ITEMS W/*
020*	1642764110	ALTERNATOR PULLEY	1	
030*	1588192010	NUT	1	
040*	1588164150	COLLAR	1	
050*	1588164040	ROTOR	1	INCLUDES ITEMS W/#
060*#	1588164800	BEARING COVER	1	
070*#	1588164770	BALL BEARING	1	
090*	1642764020	DRIVE END FRAME	1	
100*	1588164710	RETAINER PLATE	1	INCLUDES ITEMS W/%
110*%	1588193010	ROUND HEAD SCREW	4	
120*%	1588164260	THROUGH BOLT	2	
130*%	1588164780	BALL BEARING	1	
140*%	1624164060	END FRAME	1	
150*	1624164230	END COVER	1	
160*	1623164850	RECTIFIER ASSY.	1	
170*	1624164900	INSULATION BUSH	1	
180*	1588164310	BRUSH HOLDER	1	INCLUDES ITEMS W/&
190*&	1588164090	BRUSH	2	
200*&	1588164330	BRUSH SPRING	2	
210*	1588193020	ROUND HEAD SCREW	2	
220*	1588193030	ROUND HEAD SCREW	6	
230*	1588193040	ROUND HEAD SCREW	1	
240*	1588191040	BOLT	3	
250*	1588192020	NUT	2	
260*	1588191050	BOLT	2	
270*	1418292030	NUT	1	
280*	1588164600	REGULATOR ASSY.	1	

KUBOTA D1403— FAN ASSY.

FAN ASSY.



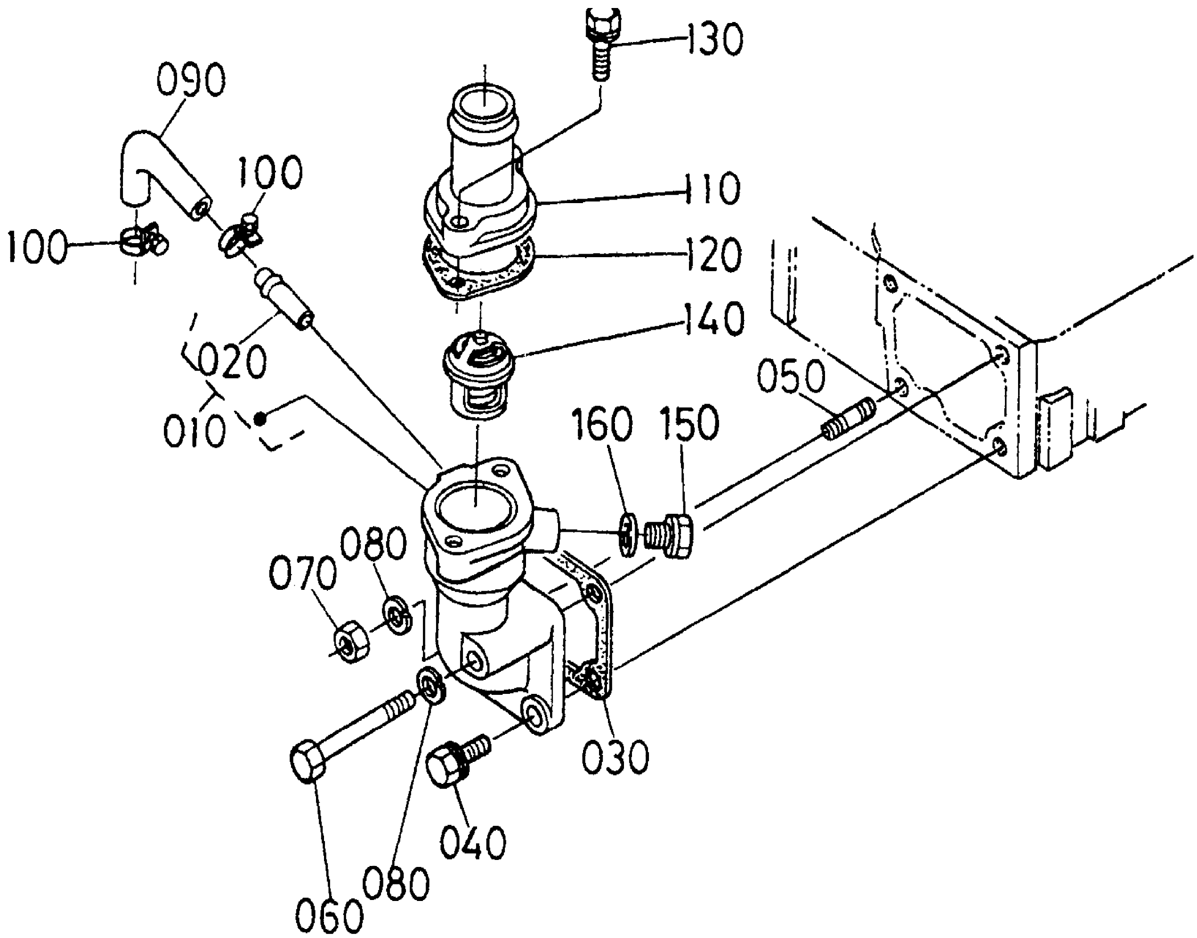
KUBOTA D1403— FAN ASSY.

FAN ASSY.

NO.	PART NO.	PART NAME	QTY.	REMARKS
010	1734574110	FAN	1	
020	1981874150	FAN COLLAR	1	
030	0175450625	FLANGE BOLT	4	
040	1728874280	FAN DRIVE PULLEY	1	
050	0571200720	FEATHER KEY	1	
060	1726697011	V BELT	1	REPLACES 1726697010

KUBOTA D1403 — WATER FLANGE AND THERMOSTAT ASSY.

WATER FLANGE AND THERMOSTAT ASSY.



KUBOTA D1403 — WATER FLANGE AND THERMOSTAT ASSY.

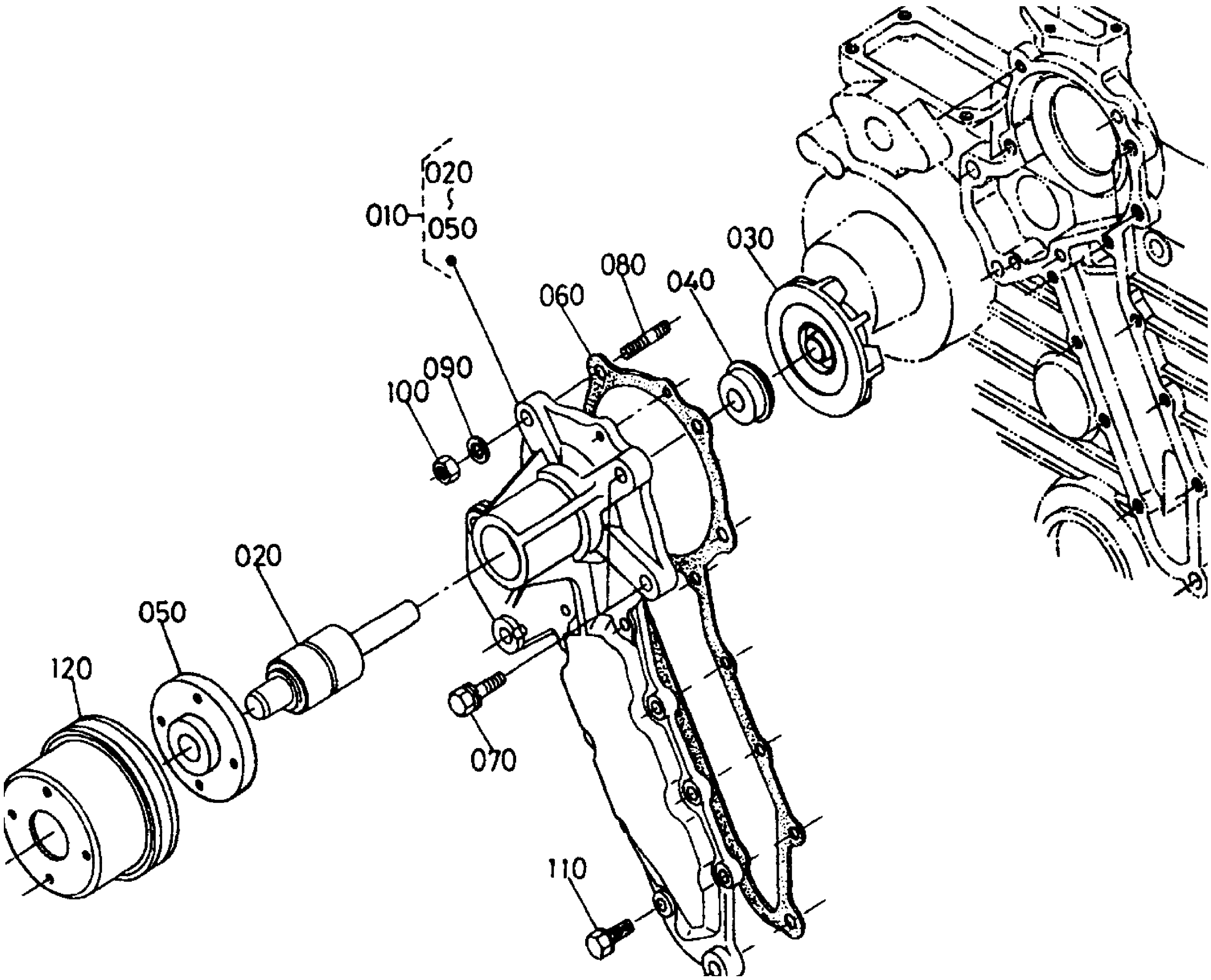
Full View

WATER FLANGE AND THERMOSTAT ASSY.

NO.	PART NO.	PART NAME	QTY.	REMARKS
010	1551272702	WATER FLANGE COMP.	1	INCLUDES ITEMS W/*
020*	1733173342	WATER RETURN PIPE	1	
030	1576672920	WATER FLANGE GASKET	1	
040	0112350822	BOLT	2	
050	0151350822	STUD	1	
060	0115350870	BOLT	1	
070	0215650080	NUT	1	
080	0451260080	LOCK WASHER	2	
090	1552173340	WATER RETURN PIPE	1	
100	1510973360	PIPE BAND	2	
110	1532173260	THERMOSTAT COVER	1	
120	1531373270	THERMOSTAT GASKET	1	
130	0112350835	BOLT	2	
140	1943473010	THERMOSTAT ASSY.	1	
150	1551296010	PLUG	1	
160	0471702150	WASHER WITH RUBBER	1	

KUBOTA D1403— WATER PUMP ASSY.

WATER PUMP ASSY.



KUBOTA D1403— WATER PUMP ASSY.

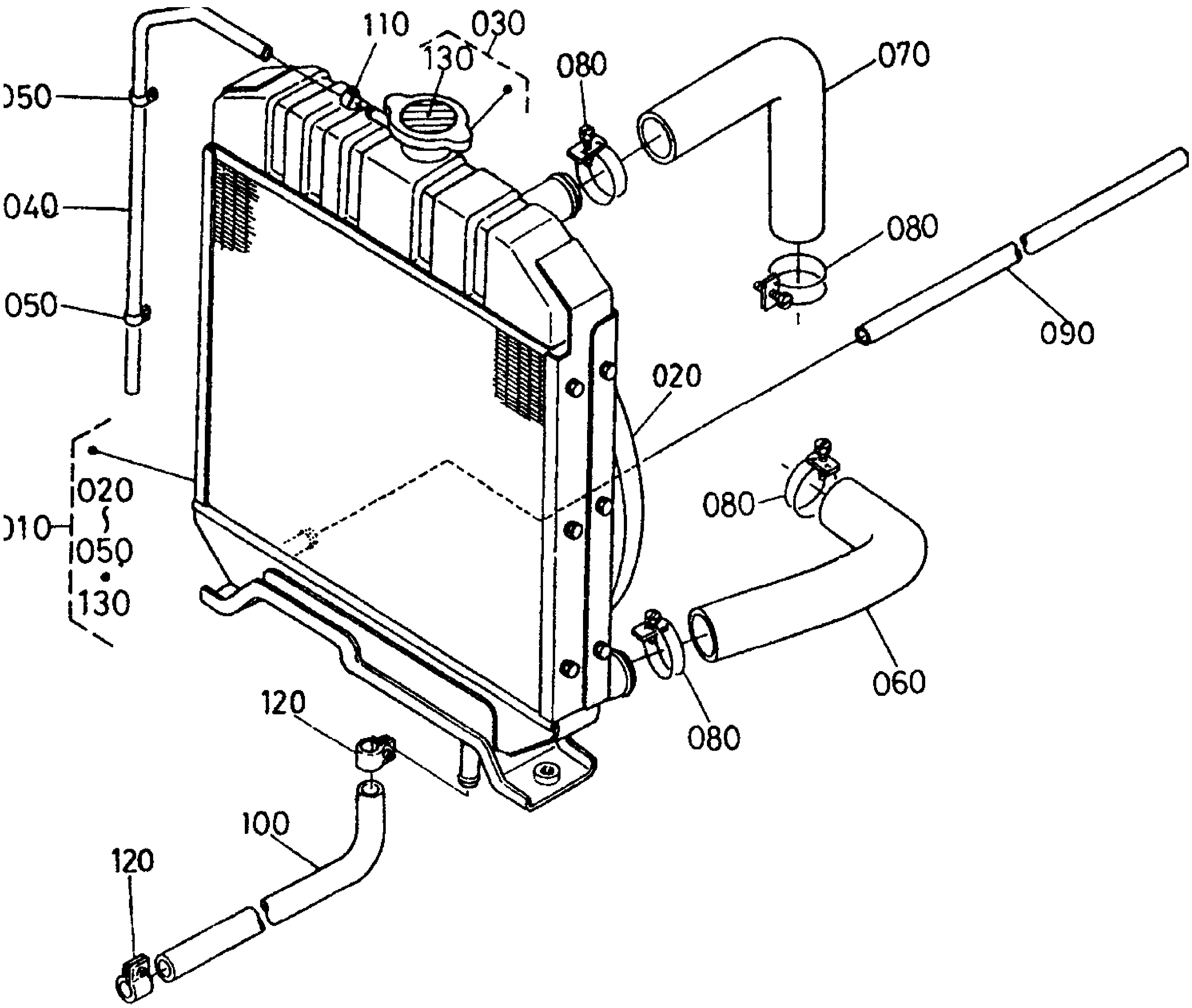
WATER PUMP ASSY.

Full View

NO.	PART NO.	PART NAME	QTY.	REMARKS
010	1552173033	WATER PUMP ASSY.	1	INCLUDES ITEMS W/*
020*	1552173550	BEARING	1	
030*	1666173510	IMPELLER	1	
040*	1666173050	MECHANICAL SEAL ASSY.	1	
050*	1552173520	WATER PUMP FLANGE	1	
060	1576673430	WATER PUMP GASKET	1	
070	0112350828	BOLT	2	
080	1552191510	STUD	2	
090	0451260080	LOCK WASHER	2	
100	0215650080	NUT	2	
110	0102350618	BOLT	8	
120	1547174250	FAN PULLEY	1	

KUBOTA D1403— RADIATOR ASSY.

RADIATOR ASSY.



KUBOTA D1403— RADIATOR ASSY.

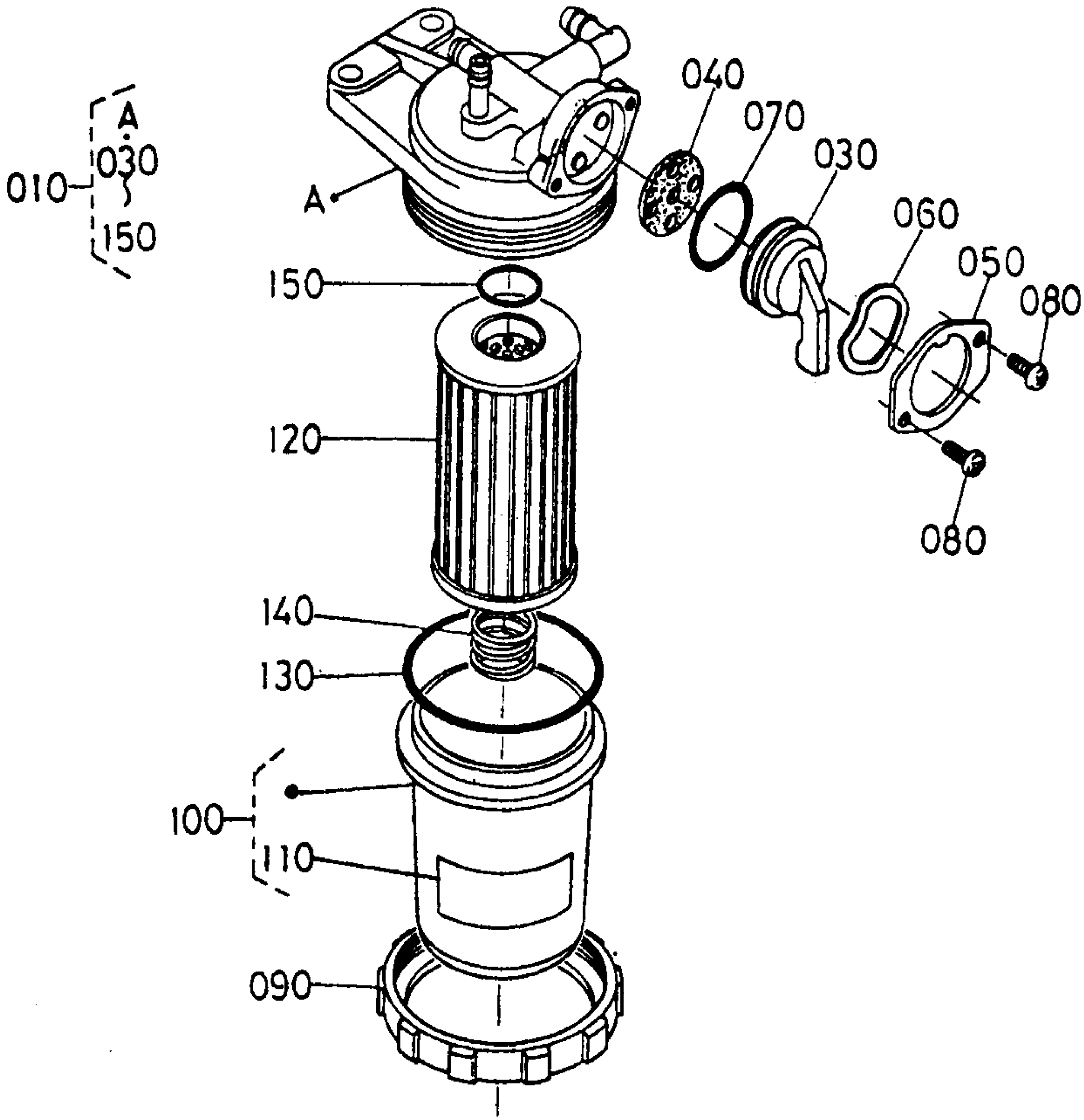
RADIATOR ASSY.

Full View

NO.	PART NO.	PART NAME	QTY.	REMARKS
010	1559672060	RADIATOR ASSY.	1	INCLUDES ITEMS W/*
020*	1552172330	FAN SHROUD	1	
030*	1527272020	CAP ASSY.	1	INCLUDES ITEMS W/#
040*	1559672710	HOSE	1	
050*	1547172730	HOSE BAND	2	
060	1546172850	LOWER HOSE	1	
070	170637294	UPPER HOSE	1	
080	1510872870	HOSE BAND	4	
090	1553772410	OVERFLOW HOSE	1	
100	1718273340	HOSE	1	
110	1540111720	HOSE BAND	2	
120	1430142750	HOSE BAND	4	
130*#	1907787240	DECAL; CAUTION	1	

KUBOTA D1403 — FUEL FILTER ASSY.

FUEL FILTER ASSY.



KUBOTA D1403 — FUEL FILTER ASSY.

FUEL FILTER ASSY.

Full View

NO.	PART NO.	PART NAME	QTY.	REMARKS
010	1707643012	FUEL FILTER ASSY.	1	INCLUDES ITEMS W/*
030*	1552143522	FILTER HANDLE	1	
040*	1552143672	GASKET	1	
050*	1552143552	HANDLE RETAINER	1	
060*	1552143542	THRUST PLATE	1	
070*	0481110290	O RING	1	
080*	1552193310	WASHER WITH SCREW	2	
090*	1552143150	RETAINER RING	1	
100*	1552143100	FILTER CUP ASSY.	1	INCLUDES ITEMS W/#
110*#	1687388430	FUEL LABEL	1	
120*	1552143160	FILTER ELEMENT	1	
130*	0481150650	O RING	1	
140*	1552143930	SPRING	1	
150*	0481100160	O RING	1	

Effective: July 1, 2000 — TERMS AND CONDITIONS OF SALE — PARTS

PAYMENT TERMS

Terms of payment for parts are net 10 days.

FREIGHT POLICY

All parts orders will be shipped collect or prepaid with the charges added to the invoice. All shipments are F.O.B. point of origin. Multiquip's responsibility ceases when a signed manifest has been obtained from the carrier, and any claim for shortage or damage must be settled between the consignee and the carrier.

MINIMUM ORDER

The minimum charge for orders from Multiquip is $15.00 net. Customers will be asked for instructions regarding handling of orders not meeting this requirement.

RETURNED GOODS POLICY

Return shipments will be accepted and credit will be allowed, subject to the following provisions:

1. A Returned Material Authorization must be approved by Multiquip prior to shipment.
2. To obtain a Return Material Authorization, a list must be provided to Multiquip Parts Sales that defines item numbers, quantities, and descriptions of the items to be returned.
    a. The parts numbers and descriptions must match the current parts price list.
    b. The list must be typed or computer generated.
    c. The list must state the reason(s) for the return.
    d. The list must reference the sales order(s) or invoice(s) under which the items were originally purchased.
    e. The list must include the name and phone number of the person requesting the RMA.
3. A copy of the Return Material Authorization must accompany the return shipment.
4. Freight is at the sender's expense. All parts must be returned freight prepaid to Multiquip's designated receiving point.
5. Parts must be in new and resalable condition, in the original Multiquip package (if any), and with Muiltiquip part numbers clearly marked.
6. The following items are not returnable:
    a. Obsolete parts. (If an item is listed in the parts price book as being replaced by another item, it is obsolete.)
    b. Any parts with a limited shelf life (such as gaskets, seals, “O” rings, and other rubber parts) that were purchased more than six months prior to the return date.
    c. Any line item with an extended dealer net price of less than $5.00.
    d. Special order items.
    e. Electrical components.
    f. Paint, chemicals, and lubricants.
    g. Decals and paper products.
    h. Items purchased in kits.
7. The sender will be notified of any material received that is not acceptable.
8. Such material will be held for 5 working days from notification, pending instructions. If a reply is not received within 5 days, the material will be returned to the sender at his expense.
9. Credit on returned parts will be issued at dealer net price at time of the original purchase, less a 15% restocking charge.
10. In cases where an item is accepted for which the original purchase document can not be determined, the price will be based on the list price that was effective twelve months prior to the RMA date.
11. Credit issued will be applied to future purchases only.

PRICING AND REBATES

Prices are subject to change without prior notice. Price changes are effective on a specific date and all orders received on or after that date will be billed at the revised price. Rebates for price declines and added charges for price increases will not be made for stock on hand at the time of any price change.

Multiquip reserves the right to quote and sell direct to Government agencies, and to Original Equipment Manufacturer accounts who use our products as integral parts of their own products.

SPECIAL EXPEDITING SERVICE

A $20.00 to $50.00 surcharge will be added to the invoice for special handling including bus shipments, insured parcel post or in cases where Multiquip must personally deliver the parts to the carrier.

LIMITATIONS OF SELLER'S LIABILITY

Multiquip shall not be liable here under for damages in excess of the purchase price of the item with respect to which damages are claimed, and in no event shall Multiquip be liable for loss of profit or good will or for any other special, consequential or incidental damages.

LIMITATION OF WARRANTIES

No warranties, express or implied, are made in connection with the sale of parts or trade accessories nor as to any engine not manufactured by Multiquip. Such warranties made in connection with the sale of new, complete units are made exclusively by a statement of warranty packaged with such units, and Multiquip neither assumes not authorizes any person to assume for it any other obligation or liability whatever in connection with the sale of its products. A part from such written statement of warranty, there are no warranties, express, implied or statutory, which extend beyond the description of the products on the face hereof.

Table of Contents

HERE'S HOW TO GET HELP

PLEASE HAVE THE MODEL AND SERIAL NUMBER ON-HAND WHEN CALLING

PARTS DEPARTMENT
800/427-1244 or 310/537-3700
FAX: 800/672-7877 or 310/637-3284

SERVICE DEPARTMENT
800/835-2551 or 310/537-3700
FAX: 310/638-8046

WARRANTY DEPARTMENT
800/835-2551 or 310/537-3700
FAX: 310/638-8046

MAIN
800/421-1244 or 310/537-3700
FAX: 310/537-3927

Manufactured for Multiquip Inc.
by
DENYO MANUFACTURING CO., USA

MULTIQUIP INC.
POST OFFICE BOX 6254
CARSON, CA 90749
310-537-3700 • 800-421-1244
FAX: 310-537-3927
E-MAIL: mq@multiquip.com
WWW: multiquip.com

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